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THE FUNCTIONS OF THE LARGE INTESTINE *

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The portion of the alimentary canal in which the final processes of normal digestion occur, and in which almost all the digested food is absorbed, is the small intestine. At the lower end of this long tube is the large intestine, serving as a reservoir to receive, store and periodically discharge the accumulation of waste. Mixed with the waste received in the large intestine is a slight amount of food which has hitherto escaped absorption; and if the diet has contained much vegetable substance, a good deal of cellulose may also be present. Throughout the small intestine the contents are maintained in a semifluid state — a state favorable to the energetic chemical processes which the food there undergoes, and favorable also to ease of movement through the canal and to readiness of absorption. The material delivered to the colon is still semifluid.

In the cecum and ascending colon the stagnant mixture of indigestible matter, food, cellulose, water and bacteria presents an ideal condition for putrefactive and fermentative decomposition. Indeed, Folin and Denis have recently shown that ammonia in the portal blood arises to a large degree in the colon[1] in which there is an abundance of ammonia developed from bacterial putrefaction. In this first part of the large intestine the last of the food disappears, the cellulose may undergo changes which result in its being utilized by the body,[2] and the water content begins to be reduced. Since no provision is made for continuance of important digestive processes in the colon and since very little available food is carried there from the small intestine, the main functions of the colon are those of storage and periodic riddance of waste — both mechanical functions.

The absorption of water causes the consistency of the waste to be gradually more dense. Whereas the content of the cecum and ascending colon is soft and mushy, the content of the transverse colon may be found as firm as that which is discharged through the rectum.[3] This difference in consistency of the material in the proximal and in the distal colon corresponds to a difference in motor activity in these two regions.

MOVEMENTS OF THE PROXIMAL COLON

In 1902 I reported that in the proximal colon of the cat the characteristic movement is antiperistalsis,[4] or more briefly, anastalsis, a movement of waves backward toward the cecum.[5] In the distal colon, on the contrary, the firmer material is gripped by persistent rings of tonic constriction.

Anastalsis.—The anastaltic waves rarely run continuously for a long time. A series of waves, at the rate of about five per minute, can occasionally be seen running for four or five minutes and then ceasing. It is important to note that the waves start at the nearest ring of constriction. The condition for their appearance is normally the pushing of a fresh mass of material from the small intestine into the colon. This addition to the colonic contents results in a contraction of the proximal colon and a distention of the constriction ring. Recently I have presented evidence that the stretching of the ring of constriction causes it to pulsate, and that each pulsation sends off an anastaltic wave—a local response of the neuromusculature of the intestinal wall.[6] The distention of the colon by rectal injection will usually occasion the appearance of a long succession of these backward-moving undulations.

These *x*-ray observations on anastalsis of the cat's proximal colon were confirmed, in 1904, by Elliott and Barclay-Smith, who studied the activities of the large bowel exposed under warm salt solution. They also observed the activity in the rat and guinea-pig, and to some extent in the rabbit, hedgehog and ferret.[7] In the herbivorous animals which they studied, they found that sacculation of the proximal colon was associated with kneading movements, each sacculus becoming at times the seat of swaying oscillations. Indeed, there was a direct correlation between the degree of this kneading motion and the degree of sacculation of the wall.

The Question of Anastalsis in the Human Colon.—The colon of man is sacculated as in herbivores, rather than cylindrical as in carnivores. The question has arisen, and has stimulated a good deal of argument and observation, as to whether anastalsis occurs in the colon of man.

From the soft homogeneous nature of the contents of the proximal colon Elliott and Barclay-Smith assumed that in man the material is here "still delayed by a backward current, still commingled by the activity of the walls of the sacculi."

Inferential evidence for anastalsis in the human proximal colon has been drawn from cases of cecal fistula. In these cases rectal enemas have been observed to traverse the entire length of the colon and to escape through the artificial opening. In such cases also, surgeons have attempted to stop the fecal discharge by transplanting the ileum into the transverse colon, but the discharge continued. F. T. Murphy and others have

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Folin and Denis: Jour. Biol. Chem., 1912, xi, 162.
2. Zuntz and Ustjanzev: Arch. f. Physiol., 1905, p. 403.
3. Roith: Merkel and Bonnet's Arbeiten, 1903, xx, 32.
4. Cannon: Am. Jour. Physiol., 1902, vi, 265.
5. Cannon: Am. Jour. Physiol., 1912, xxx, 126.
6. Cannon: Am. Jour. Physiol., 1911, xxix, 238.
7. Elliott and Barclay-Smith: Jour. Physiol., 1904, xxxi, 272.

reported cases of this character.[8] Maucaire has described an instance of persistent fecal discharge from a fistula in the cecum after the ileum had been sewed into the lower end of the descending colon; the backward transport of material ceased only when the colon was cut across and closed above the new ileocecal junction.[9] This reversed current is certainly consistent with effective anastalsis in man.

A variety of *x*-ray observations also have been interpreted as indicating anastalsis in the human proximal colon. Thus Stierlin found that the cecum and near-by colon retain longer than any other part of the alimentary canal the mixture used to produce *x*-ray shadows.[10] Furthermore, the sacculi or haustra are in this region often absent or only slightly developed. Bloch[11] and von Bergmann and Lenz[12] have seen in man, by means of the *x*-rays, the contents of the cecum and ascending colon quickly forced onward to the beginning of the transverse colon; and then after a short period a definite retrograde movement of the contents which again filled the proximal portion.[13] This to-and-fro shifting may recur rhythmically for some time, and, although appearing spontaneously, can be stimulated by palpation. Von Bergmann and Lenz have suggested that the backward movement, or "retrograde transport," of the contents may result simply from relaxation of the proximal portion, after the contraction which forced the material onward. They admit, however, that this return may be hastened by contraction of the transverse colon.

Although the escape through cecal fistulas of material introduced distally into the colon clearly demonstrates a backward current in the human large intestine, although the long retention of material in the cecum is good evidence of retarded progress, and although the retrograde transport of material in the proximal colon can be interpreted as due to a backward pressure, nevertheless these facts do not prove the presence of anastalsis, in the sense of visible waves passing backward over the intestinal contents. And Hertz has testified to having watched with the *x*-rays the shadows of the human colon for various periods in a large number of individuals without seeing the phenomenon. Even the introduction of an enema (containing bismuth) under a pressure which rendered the entire colon visible, did not call forth any anastaltic activity.[14] Rieder† has recently been able to bring evidence, however, on the basis of his *x*-ray studies, that anastalsis actually does occur in the human colon. While it appeared in the main along the cecum, ascending and proximal transverse colon, it might appear in any portion of the large intestine. These observations on man are wholly in accord with those of myself and Elliott and Barclay-Smith on lower animals.

As will be recalled, the anastaltic waves start in the cat at the tonically constricted ring nearest the cecum. Furthermore, they can be started in the inactive intestine by making a tonic ring. The tonic ring is therefore of prime importance in originating anastalsis. Now, Boehm has recently described human cases in which the *x*-rays have revealed a narrowing of the transverse colon usually situated at the right of the mid-line, with undivided contents between it and the cecum, and with permanently segmented masses between it and the sigmoid flexure.[15] As Boehm noted, the narrow place is similar to the first tonic ring observed in cats, which served as the source of anastaltic waves. Injection of the human colon under these conditions might evoke these waves.

Haustral Churning. — On the basis of Elliott and Barclay-Smith's testimony that kneading or mixing contractions of the colonic walls are specially notable when sacculi or haustra are well developed, the human colon should be expected to manifest such activities. According to Schwarz's *x*-ray studies on man,[16] such haustral changes are occurring constantly. He refers to these changes as due to peristalsis, but his figures and his statement that the changes are strictly local depressions of the contour, now here, now there, suggest that he was actually watching haustral contractions, which are in fact not unlike the rhythmic segmentation of the small intestine. Rieder also has seen these oscillations of the haustra, and has revived for them the undescriptive term, "pendulum movements."

Whether the predominant movements of the proximal colon are extensive contractions shifting the mass of contents rhythmically forward and back, as von Bergmann and Lenz observed them (the large "pendulum movements" of Rieder), or gentle compressions of the contents of the sacculi, as Schwarz has noted, the effect must be, in either case, a thorough mixing and overturning of the material in this region, and an exposure of the semifluid mass to the absorbing mucosa. This first portion of the large intestine should be regarded, therefore, as a place in which digestion and absorption might still continue.

MOVEMENTS OF THE DISTAL COLON

The distal colon, which, on the basis of Roith's studies, may be regarded as beginning in man roughly near the middle of the transverse portion, contains normally firm and formed masses of waste material. In this region the characteristic activity of the intestinal wall is an onward-moving wave, or diastalsis. There is indeed some evidence that difference in the direction of waves is dependent on the consistency of the contents. Thus in the rat the proximal colon is the seat of anastaltic waves if the contents are soft and moist, but exhibits the diastaltic reflex if the material is stiff and dry.

Diastalsis.—Two modes of advancing the contents of the distal colon have been observed in man. Holzknecht has recorded having seen, by means of a fluorescent screen, the contents of one section of the colon moved onward into an empty distal section by a sudden push lasting only a few seconds. The haustral segmentation disappeared just before the advancement began, but reappeared at once when the material became settled in its new position. The function of the haustra suggested by this observation is, as in the proximal colon, that of increasing the surface for absorption, and not that of propelling the fecal matter.

The second method of propelling contents in the distal colon has been reported by Fischl and Porges.[17] They saw a small piece about the size of the thumb separated from the mass in the transverse colon, and pushed slowly to and around the splenic flexure, then

8. Murphy, F. T.: Boston Med. and Surg. Jour., 1911, clxiv, 154.
9. Maucaire: Cong. franc. de chir., Paris, 1903, p. 86.
10. Stierlin: Ztschr. f. klin. Med., 1910, lxx, 392.
11. Bloch: Med. Klin., 1911, vii, 215.
12. von Bergmann and Lenz: Deutsch. med. Wchnschr., 1911, xxxvii, 1425.
13. I have seen the same phenomenon in the cat. (Cannon: The Mechanical Factors of Digestion, London and New York, 1911, p. 190.)
14. Hertz: Constipation and Allied Intestinal Disorders, London, 1909, p. 7.
† Rieder: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1912, xviii, 118.
15. Boehm: Deutsch. Arch. f. klin. Med., 1911, cii, 444.
16. Schwarz: München med. Wchnschr., 1911, lviii, 1489.
17. Fischl and Porges: München. med. Wchnschr., 1911, lviii, 2064.

down the descending colon. Three or four similar masses followed the first, each new one starting as its predecessor came to a stop. Thus, either extensive accumulations of waste, or small fragments, can be transmitted toward the rectum.

In 1905, I reported, in a paper on auscultation of the alimentary canal,[18] having heard a progression of little crackling noises starting in the transverse colon and traceable from point to point along the distal portions of the large intestine. The progress is continuous and requires hardly a minute for its completion. It is likely to be followed by a tendency to pass gas from the bowel. Last year von Bergmann and Lenz reported seeing with the *x*-rays a superficial wave of contraction run along the transverse colon, and suggested that thus intestinal gases might be carried from the proximal to the terminal section of the intestine. Since the fermentative processes in the cecum and ascending portion would be likely to cause a considerable production of gas in this region, a means of rapidly carrying it away is obviously advantageous. A similar rapid transport of material probably occurs when irritant products of putrefaction result in diarrhea.

Defecation.—The process of clearing the distal colon in the cat consists of a gradual reduction of the material present. First the tonic constrictions disappear, just as the haustral indentations disappear in man, and are replaced by a strong, broad contraction of the circular muscle, which separates proximal and distal masses. Simultaneously, a shortening of the descending colon pulls on the region of contraction and crowds material into the rectum. Now the broad contraction moves downward, and aided by muscles of the abdominal wall pushes the separated mass out of the canal. The colon then returns to its former position; but in about two hours, the remnant left in the colon is spread throughout the colon. Afterward the distal part of this mass is cut off and pushed out of the canal in the manner above described.

In man, the changes during defecation have been studied by the *x*-ray method by Hertz, Schwarz and others. As in the cat, a relatively long column of feces is passed out at one time. Hertz's tracings show that the entire large intestine below the splenic flexure is normally evacuated at a single act. And Schwarz has reported that at defecation the colon can clear itself from the ascending portion onward. The soft character of the final portion of a large fecal discharge would thus be accounted for. Again, as in the cat, so in man, the remnant left in the ascending colon is within a short time spread along the colon even to the end.[19]

According to Hertz the waste material accumulating in the distal colon in man normally stops at the junction between the pelvic colon and the rectum where an acute angle offers some obstruction to progress. Then from below upward the pelvic colon fills, and, if more material arrives, it gathers increasingly in the iliac and descending portions.

On becoming distended the pelvic colon rises and widens its acute angle with the rectum, thus removing the obstruction to the advancement of fecal matter. Some of this matter now entering the rectum leads to the desire to defecate. The common performance of the act regularly after breakfast may be attributed, in part at least, to stimulation of peristalsis in the colon by taking food, aided perhaps by the muscular activities that attend arising and dressing. When the "desire to defecate" is not aroused by these natural events, voluntary contraction of the abdominal muscles may cause some feces to enter the rectum and thus evoke the call.

When the call to defecation has come, the further performance of the act is usually accomplished, but not necessarily, by increased intra-abdominal pressure—a result of voluntary contraction of the abdominal muscles—and by reflex contraction of the intestinal wall. As the diaphragm contracts, the entire transverse colon is pushed downward, and the ascending colon and cecum are forced into an almost globular form. The intra-abdominal pressure, as measured in the rectum during this stage, may be from four to eight times the normal, i. e., may be between 100 and 200 mm. of mercury.[20] This pressure causes more feces to enter and distend the rectum and anal canal. The distention of these parts arouses reflexes which start strong diastaltic contractions of the colon, continues the tendency to strain with the voluntary muscles, and produces relaxation of both anal sphincters.

The time required for a mass containing bismuth salts to pass through the alimentary canal has been variously given. According to Hertz the long way through the esophagus, stomach and small intestine is traversed in about four hours and a half. In a case carefully studied by Rieder material began to appear in the cecum in three hours and a half, and the small intestine was empty at the end of nine and a half hours. At least as much more time is required for the material to go along the relatively short distance from the cecum to the splenic flexure, four hours and a half, according to Hertz, and in Rieder's case about eleven hours. Defecation nine hours after breakfast (e. g., at 5 p. m. after an 8 o'clock morning meal) might, therefore, rid the body of waste taken in the same day. If the act were performed at 4 o'clock, however, this waste would not be discharged. And if 4 o'clock were the regular time for the act, the waste from breakfast must be retained for another twenty-four hours. Thus the interval between the taking of a meal and the excretion of its residue may vary when the bowels are opened regularly once a day, between nine and thirty-two hours—the period depending on the time of eating and the time of defecation.

INNERVATION OF THE LARGE INTESTINE

The large intestine receives, like the stomach and small intestine, a double nerve-supply from the central nervous system—a tonic or motor supply through the sacral visceral nerves, and an inhibitory supply from the lumbar cord through the sympathetic system, by way of the inferior mesenteric ganglion. According to Elliott and Barclay-Smith the sacral visceral nerves do not innervate the proximal third of the colon in the cat or the cecum in the dog. Indeed, the regions of anastalsis seem not to receive motor impulses.

The functioning of the two sets of nerves is indicated by the results of sectioning, as well as by stimulating them. Severance of the sympathetic fibers in the cat and rabbit causes no lasting disturbance of the motor functions. After removal of the motor impulses, however, by destruction of the sacral cord or by cutting the nerves, feces accumulate and the contractions of the intestine are weak and sluggish.[21] These functional defects may be due to the persistence of inhibitory tonus, for when both sets of nerves are abolished in the dog, the animal,

18. Cannon: The Mechanical Factors of Digestion, London and New York, 1911, p. 176.
19. Schwarz: München. med. Wchnschr., 1911, lviii, 2063.
20. Keith: Allbutt and Rolleston's System of Medicine, 1907, iii, 860.
21. Elliott and Barclay-Smith: Jour. Physiol., 1904, xxxi, 288.

after a few weeks, exhibits normal activity of the colon, with feces of usual consistency discharged at customary intervals.

CONSTIPATION

As already stated, defecation is a reflex initiated by the presence of feces in the rectum. The section of sensory roots of the sacral nerves supplying the rectal mucosa causes an abolition of the normal coordination.[22] It is a matter of much practical importance that the rectal mucosa soon becomes adapted to the presence of a fecal accumulation, and then fails either to induce the desire to defecate or to initiate reflex contraction of the colon. If the call to defecation is not promptly obeyed, therefore, it ceases to be given, and the feces stagnate in the rectum.

Stagnation of feces in the rectum is only one of the ways in which passage of material through the alimentary canal may be delayed. In this form, for which Hertz has revived the name "dyschezia,"[23] the rate of movement through the entire length of the digestive tract, as far as the pelvis, may be normal, but the rectum and pelvic colon are not properly emptied. In other forms there may be delay somewhere in the long course which the food takes, because of inefficient motility, as in states of general atony, in depressive emotions, and in reflex inhibitions of intestinal movements. In still other cases the delay may be due to obstructions of various sorts. In distinguishing these various causes of delay in the passage of material through the alimentary canal, the *x*-ray method has provided a highly important aid to other methods of clinical examination.

A NEW METHOD OF SUTURING BLOOD-VESSELS *

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Suturing blood-vessels is an eminently practical field of surgery, and its chief usefulness will probably be found in repair of accidental wounds of the vessels, in restoring the continuity of an artery or a vein after removing a portion of it when it is involved in a malignant growth, and in transfusion of blood. Aneurysms arising from any form of arteritis can hardly be dealt with successfully by the method of suturing applicable in a trauma of a healthy vessel, because satisfactory union requires a healthy intima. Aside from aneurysms, however, there should be many cases in the service of every general surgeon, and particularly those who do emergency surgery, in which the operator can employ blood-vessel suturing to great advantage.

The method of suturing blood-vessels generally used is that of Carrel. Transferring the guy sutures after suturing each third of the vessel, the likelihood of their becoming tangled, the maintenance of proper tension on the guy sutures, and the relaxation of the tension while changing from one-third of the vessel to the other are confusing and tend to make the sutures irregular and faulty. Another very practical objection is the difficulty of obtaining the services of an assistant trained in this work at just the time when such help is most needed.

In an effort to obviate these difficulties I have employed a technic by which the guy sutures can be fastened to a special instrument, which I call an "arterial suture staff," and the suturing done by a continuous mattress stitch which everts and apposes the intima.

This instrument (Fig. 1) consists of a small steel shaft which curves at one extremity into a shorter shaft. The long shaft, or handle, is 6 inches long, and the short shaft is 1¾ inches long and is placed at an angle of about 55 degrees to the long shaft. The curved portion is flattened to form a spring. There are five buttons; one on the main shaft as close as possible to the curved spring, one at the extremity of the short shaft, one just below this, and two on the main shaft at points about opposite the buttons on the short shaft. These buttons hug the instrument closely and are so constructed that the guy sutures are securely held by simply wrapping them twice around the buttons.

The strictest asepsis must be maintained. The operating-room should be washed and preferably sprayed one or two hours before the operation in order to eliminate dust. Every detail for the most careful aseptic operation, such as wearing mouth-pieces, etc., should be carried out for, as Carrel has shown, the slightest infection which clinically shows only as a mild redness of the skin will often cause clotting and obliteration of the lumen of the vessel. The intima should be handled gently and never permitted to dry. Dropping warm salt solution from a medicine-dropper on the ends of the vessel at frequent intervals during the operation is the most satisfactory way of preventing drying of the intima. It keeps the field clearer than is possible when petrolatum is employed for this purpose.

Fig. 1.—The arterial suture staff for holding the guy sutures.

DESCRIPTION OF TECHNIC

Short straight needles, No. 16, and fine black silk thread are used. The needle is threaded and the silk fastened to the needle by a single knot. Five of these needles are threaded through a piece of gauze and are sufficient for one operation, allowing two extra needles. Besides these, the special instruments required are the arterial suture staff, two Crile clamps, an iris forceps, a few mosquito forceps and a medicine-dropper.

The artery is exposed by a long incision and the Crile clamps are placed on the artery, which is then cut across with a pair of sharp scissors. The adventitia of each end is caught between the thumb and finger, pulled over the end of the vessel and cut squarely off, when it retracts, leaving the end of the vessel clear. The artery is then washed out with salt solution from a medicine-dropper. All bleeding around the wound must be carefully stopped. The lowest suture is passed by taking one of the threaded needles which has been boiled in petrolatum and passing it from without inward in one end of the vessel and reversing this direction in the other end, the needle here going from within outward. This suture is tied, holding the ends taut as the knot is run down. The staff is then passed beneath the vessel with the handle away from the operator and the

22. Merzbacher: Arch. f. d. ges. Physiol., 1900, lxxxi, 474.
23. Hertz: Constipation and Allied Intestinal Disorders, London, 1909, p. 45.

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

short shaft of the instrument pointing toward the operator. The suture is wrapped two or three times around the lowest button on the long shaft and should be of such length that the distance from the artery to the button is about half an inch. The suture is then cut so as to leave no long ends, and another suture is passed in the same way as the first. This should be the upper suture farthest from the operator. After being tied, the short end of this suture is wrapped around one of the upper buttons on the main shaft, the threaded end being left for future suturing. The third and last guy suture is placed and is the one nearest the operator. It is tied and wrapped around one of the buttons (usually the upper one) on the short shaft while this shaft is slightly compressed toward the handle of the instrument in order to make tension when released. The ends of this suture are cut short.

When the shaft is released it will be found that the tension of the spring converts the vessel from a circular into a triangular circumference and holds the margins of the wound under the same tension throughout the operation (Fig. 2). By placing the first guy suture in

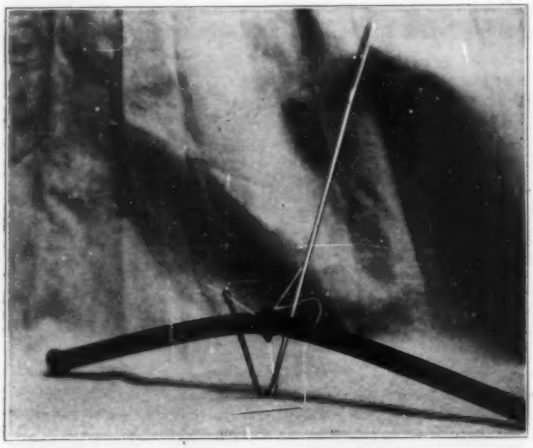

Fig. 2.—A thin rubber tube representing an artery with the three guy sutures placed and fastened to the buttons on the instrument. The circumference of the tube is made triangular by the tension of the guy sutures.

the manner indicated the others can be passed more readily, as the vessel can be rolled gently into any desired position by means of the first suture, which has been attached to the staff, and the staff can be permitted to lie flat without being held while placing the second and third guy sutures. By cutting the guy sutures short after wrapping them around the buttons no long ends are left to become entangled or to stick to the moist surface.

The suturing is done with the threaded end of the second guy suture which is farthest away from the operator (Fig. 3). This is passed back and forth after the manner of a mattress suture. The staff is lifted up so as to increase the eversion of the upper third of the artery while it is being sutured. In a vessel like the carotid artery in a medium-sized dog about five stitches are taken in each third. When the guy suture attached to the short shaft has been reached the needle and thread is pulled on in the direction of the line of sutures. This approximates the intima quite closely. If the margins of the wound were not held under tension this procedure would tend to crumple up the wound as when a purse-string suture is drawn tight. The tension of the spring, however, prevents this and unless the margins of the vessel are very snugly approximated, when tension is released there will be leakage. While holding the suture taut in one hand a back stitch is taken at the guy suture. This serves to lock each third after it has been sutured and maintains the snug apposition. When the guy sutures are reached the suture should be taken somewhat deeper than usual to avoid the wound made by the guy suture and also because the vessel is unduly pulled out at this point and the sutures consequently will have to be deeper in order to maintain uniformity with the rest of the suture line. The handle of the staff is then depressed to a horizontal position, pointing away from the operator, and the whole instrument is slightly shoved toward the operator so as to increase the eversion of the intima in the third that is being sutured (Fig. 4).

The second division is completed in the same manner as the first, the line of sutures being pulled on snugly, and a backstitch is taken to maintain the tension. The handle is then carried through 180 degrees and is depressed until it is horizontal, this time pointing toward the operator (Fig. 5). Care should be taken not to let too much weight rest on the tip of the short shaft

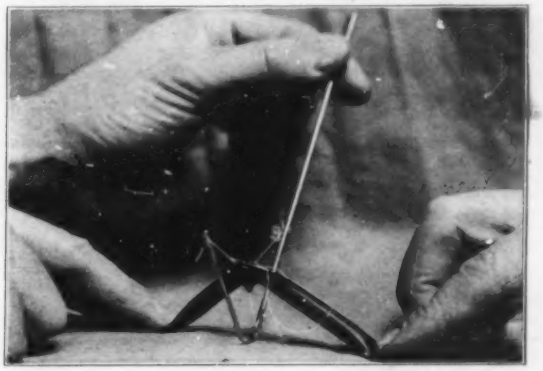

Fig. 3.—The handle of the staff is upright and the continuous mattress suture has been started.

in this position, as this will relax the tension by compressing the spring. The instrument is then lifted up so as to increase the eversion of the margins of the wound. The suture is continued as heretofore and is completed at the point at which it was begun by returning the instrument to its original position, taking one back stitch and carrying the suture about two stitches beyond the starting-point, where it is finished by whipping it over after the manner of an overhand suture and running the thread under the loop before the loop is drawn tight. This holds the thread securely. The Crile clamps are loosened gradually, the distal one first. The shafts of the instrument are grasped between the thumb and fingers and pressed toward each other so as to relax tension (Fig. 6).

If any spurting occurs, the clamps may be tightened, pressure on the instrument released, and an extra suture placed at the spurting point. If care is taken in following these directions, an extra suture will not often be necessary in an artery which has been divided, but in transplanting a section of a vein or in joining vessels of different caliber a spurting point will sometimes occur in spite of careful suturing. There is frequently

a small amount of oozing immediately after the suturing, but if no distinct spurting point occurs this can be controlled by gentle pressure for a minute with dry gauze. If it has not stopped at the end of a minute, an extra stitch should be placed at the bleeding point. The wound should not be closed while there is the slightest amount of oozing. The guy sutures are then cut close to the vessel and the instrument removed.

There have been several changes in the technic now employed over that which was described in an earlier paper.[1] The most important of these changes are the following:

1. The guy sutures are placed directly on the arterial suture staff, instead of first clamping them and later fixing them to the staff. This not only avoids handling the sutures twice, but also renders easier the placing of the last two guy sutures and enables the operator to roll the vessel over in any desired position and hold it there by manipulating the handle of the staff.

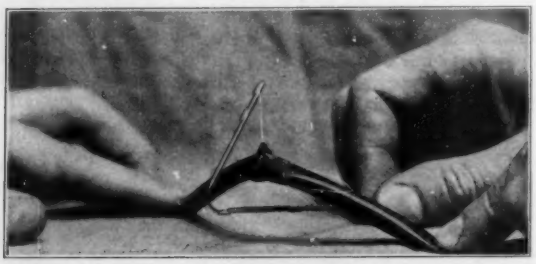

Fig. 4.—The handle is depressed till it is horizontal and points away from the operator. The second division is being sutured.

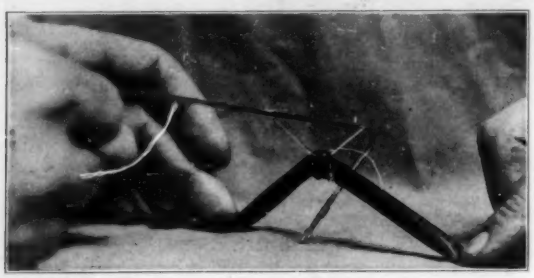

Fig. 5.—The handle of the staff is depressed till it is horizontal—this time pointing toward the operator. The last division is being sutured.

2. The sutures are placed without particular regard to tension until the end of each third of the suture line is reached when traction is made on the thread in the direction of the suture line and a back stitch is taken in order to maintain the snugness of the apposition.

3. No petrolatum is used except to boil the sutures. The gauze containing the threaded needles is taken directly from petrolatum and the needle is taken from the gauze just before it is used. At frequent intervals, warm salt solution is dropped on the ends of the vessel to keep the intima moist.

Exactly the same technic can be employed in transfusion of blood, and, in this operation, has the advantages of giving a large stream; of affording the opportunity of clearing any obstruction that might occur at the site of union; or of overcoming the contraction of the radial artery if a vein is selected near one of its branches, when a probe can be run up through the branch of the vein into the contracted artery.[2]

In healing, it seems that after a few days the coats of the vessel begin to stretch and the suture line becomes more prominent on the internal surface of the vessel than it was when first applied. This naturally will be true of any type of suturing adopted. The endothelium of the intima, however, soon covers the sutures with a transparent coat so that after the first few days the sutures are not in contact with the blood-stream at any point though readily visible from the inside. It can be easily seen that a continuous mattress suture leaves less thread exposed to the lumen of the vessel than would the ordinary continuous overhand stitch. Besides, it everts the margins of the wound more readily and keeps a broad surface of intima in contact.

The arterial suture staff not only facilitates to some extent the passing of the last two guy sutures, but holds them in proper position and under uniform tension throughout the operation. By means of this instrument the tension is kept uniform at all points along the arterial wound. There are no long ends of sutures to become entangled and there is no necessity for several changes with the alternate increase and relaxation of tension when the sutures are handled in the ordinary way, which necessarily interferes with the regularity and accuracy of the suturing. In order to secure satisfactory results the instrument must be properly used; it should be used experimentally before being employed clinically. Any competent surgeon should be able to suture blood-vessels successfully by this method after trying it on the lower animals.

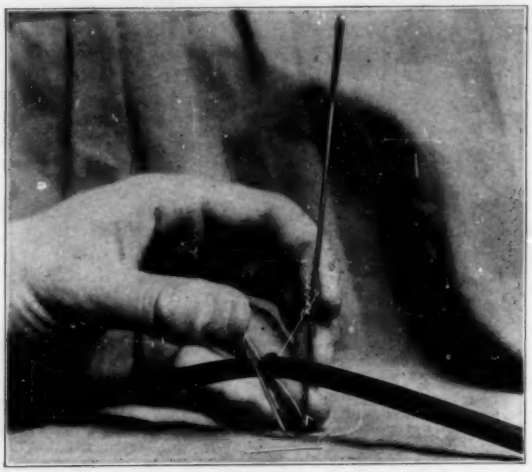

Fig. 6.—The handle of the staff has been brought to its original position and the suturing has been completed. The instrument is grasped between the thumb and fingers and compressed to relax tension of the guy sutures and to demonstrate whether there is a spurting point along the suture line.

A few specimens illustrative of this work are submitted. All experimental work was done under complete anesthesia and the animals were later killed by ether and large doses of morphin.

Figure 7 is a photograph of a vein and artery joined together and is from a case of transfusion of blood. The

1. Notes on the Technic of Suturing Blood-Vessels with a New Instrument, Ann. Surg., February, 1912; Tr. South. Surg. and Gynec. Assn., 1911.

2. Horsley: The Technic of Transfusion of Blood, THE JOURNAL A. M. A., Aug. 20, 1910, p. 663.

artery (a) is on the right, the vein (b) on the left. The specimen shows how little thread is exposed to the lumen.

Figure 8 shows on the right (a) a segment of the femoral vein which has been implanted between the cut ends of the right common carotid, and on the left (b) the left carotid artery which was merely divided and sutured. Both specimens were sutured according to the method recommended and the dog was killed after fifteen days. The transplanted vein and the left carotid were examined while the dog was under ether and just before he was killed; blood was circulating freely through both. As the photograph shows, there was no clot and the intima was smooth in both specimens. The

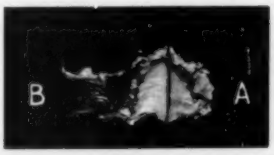

Fig. 7.—A specimen from transfusion of blood. On the right (a), a radial artery; on the left (b), a superficial vein of the forearm much contracted.

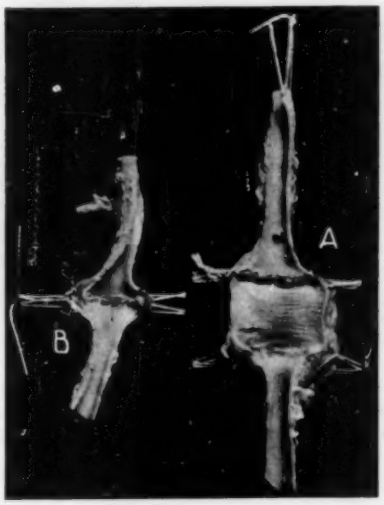

Fig. 8.—On the right (a), a segment of the femoral vein sutured between the cut ends of the right carotid. On the left (b), the left carotid divided and sutured. Specimen removed after fifteen days. Note smooth intima; sutures are distinctly seen in places under transparent endothelium.

interposed vein is suggestive of the clinical possibility of transplanting a segment of vein between the ends of an injured artery when the ends cannot be approximated. One of the superficial veins could be taken from the arm or leg and used for this purpose.

Figure 9 shows on the right (a) a femoral artery of a medium-sized dog which had been divided and sutured. The specimen was removed after twenty-seven days. The wall of the vessel is almost occluded at the suture line by an organized trombus. At one point there is no thrombus and here the stitches are barely visible through the intima. The occlusion was not complete. This thrombus is probably due to a mild infection which caused the skin wound to break down. On the left (b) is the carotid which was divided and sutured. This specimen was removed forty-one days after operation. There was no obstruction to the lumen. At points in the photograph the sutures can be seen underneath the intima, though at most places they are hidden. The traction threads have slightly wrinkled the intima and caused a shadow in the photograph, though the specimen itself shows a fairly smooth surface along the suture line.

Figure 10 shows two specimens, the upper one (a) being a carotid artery removed two days after operation. This demonstrates very clearly the small amount of

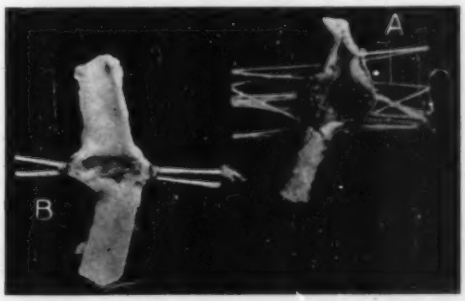

Fig. 9.—On the right (a), femoral artery divided and sutured. Removed after twenty-seven days. Almost complete occlusion by thrombus, probably due to mild infection. On the left (b), a carotid divided, sutured and removed after forty-one days. At several points sutures are visible beneath the intima. The traction threads wrinkled the specimen and the photograph shows shadows at the line of union (see text).

Fig. 10.—The upper specimen (a), a carotid divided, sutured and removed two days after operation. Note almost complete absence of thread in lumen. The lower specimen (b), a femoral artery divided, sutured and removed thirty-three days after operation. A black speck on the upper and lower margins shows the black silk sutures where the line of sutures was cut when the specimen was opened.

Fig. 11. — A femoral artery removed a few minutes after suturing. Note eversion of edges without diminution of caliber.

suture material exposed to the blood current after this operation. The lower specimen (b) is the femoral of a dog, removed thirty-three days after operation. A black speck along the upper and lower margins of this specimen shows where the suture line was cut when the specimen was opened. The intima was smooth and free from any evidence of obstruction. In Figure 8 the stitches can be seen in several places. This is because the endothelium is yet transparent, though it has covered the stitches. Later it becomes opaque and the

sutures sink deeper in the vessel-wall, as is shown in the femoral artery of Figure 10.

Figure 11 shows the femoral artery which was removed a few minutes after suturing. The blood was allowed to flow through this in order to demonstrate that it was tight. It was then ligated and removed. Note the eversion of the edges of the wound which are accurately approximated and at the same time there is no diminution of the caliber of the vessel.

617 W. Grace Street.

A PROSTATIC STUDY

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CHICAGO

Since mere theorizing has had to give way to an exact study of the removed specimens and to a thorough examination of the patients at various postoperative stages, our views as to prostatectomy have had to be changed considerably. As a rule, it would be idle to take up the nomenclature as a starting-point for revising set medical teachings. But when it once is taken as granted that certain terms correctly describe anatomic and pathologic facts, then each term will assume an axiomatic dignity. It becomes a fixture and will be used as premise for further conclusions. If later on it is discovered that this traditional nomenclature does not tally with the actual conditions, then this nomenclature will be an obstacle to the correction of erroneous ideas. This seems to hold especially true in prostatic hypertrophy.

Zuckerkandl and Tandler have called attention to the fact that our usual terms describing the prostatic anatomy and the pathology of prostatic hypertrophy are in need of a thorough revision.

They assert that our accepted division of the prostate in two lateral and one median lobe does not correspond with the anatomic facts; they furthermore state that the anatomic capsule of this gland is derived from, and is in intimate connection with, the endings of the pelvic fasciæ that meet around this gland, that it is impossible to enucleate the prostate out of this capsule, that it could only be dissected out of it and that the "surgical capsule" of the prostate is in fact a misnomer. They agree with Freudenberg's statement that the prostatic capsule of the surgeons consists of compressed prostatic tissue.

Their anatomic studies convinced them that the hypertrophy of the prostate takes place exclusively in this part of the gland, which extends from the internal urethral orifice onto the openings of the ductus deferentes, and that this hypertrophy includes only the central nucleus of the gland. The so-called total prostatectomy ought properly be called subtotal prostatectomy. The enucleation of the hypertrophied part of the prostate occurs inside of a circular layer of compressed prostatic tissue, detached from the central part of the gland. This latter part of the gland is intimately connected with the proximal end of the urethra and will always be removed together with the enucleated part of the prostate; if the operation is properly done, the urethra will be severed proximal from this section of the canal that carries the colliculus seminalis with the openings of the ductus deferentes. Lendorf endorses the views of these authors.

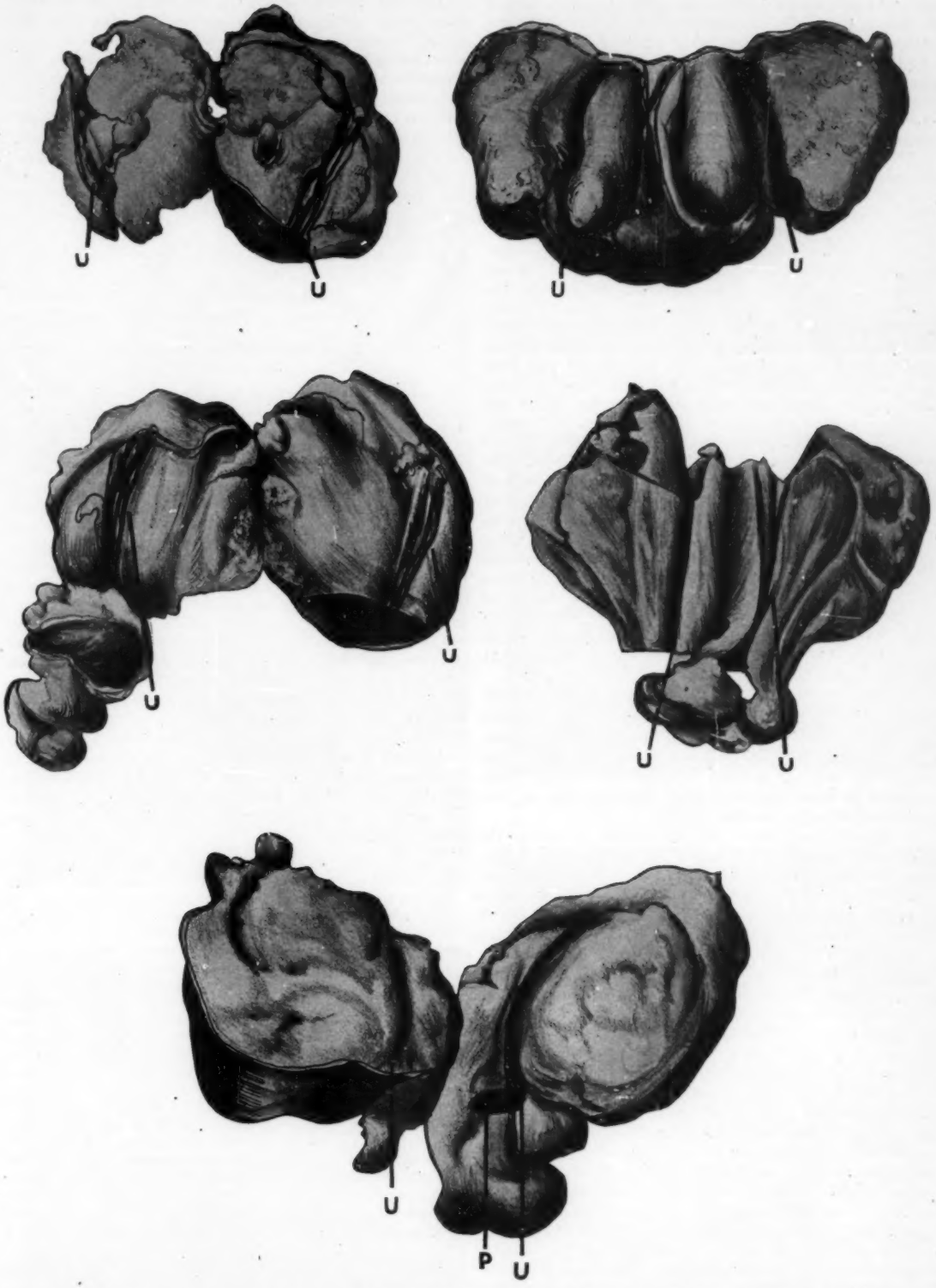
The healing occurs in this way: the lowest part of the bladder helps in the reformation of the urethra; this is facilitated by the fact that after the removal of the hypertrophied part of the prostate the whole bladder sinks down, thus approaching the distal part of the urethra that is fixed by the urogenital diaphragm.

Considering that the part of the prostate that hypertrophies is always that which is closest to the bladder, it becomes obvious that the suprapubic method ought to be the method of choice.

I repeatedly took occasion in meetings devoted to the discussion of prostatectomy to demonstrate on series of specimens that it is impossible to preserve the prostatic urethra if one actually removes the entire hypertrophied part of the prostate, provided this hypertrophy involved the central nucleus in the sense of Zuckerkandl and Tandler. The accompanying pictures of prostates, representing various types of this central hypertrophy, will illustrate this point. The presence of the urethra in these specimens was proved not only by sounding before the specimens were split, and by the macroscopic aspect after the specimens were cut in half, but also by microscopic examinations, done at excised parts of the mucous canal assumed to be urethra. This inclusion and removal of the prostatic urethra is illustrated by the clinical fact that in most of the cases of prostatic hypertrophy the urethra appears to be considerably elongated, while in turn, after the prostatectomy is once done, the canal shows some shortening, a fact that can be demonstrated just as well immediately after the operation as in the later periods of recovery and of definite cure. It must be admitted, however, that in a very small minority of specimens no trace of urethral mucosa could be found, although everything that seemed to be hypertrophied was removed. Out of eighty of my specimens examined in this respect, in two only could no urethra be demonstrated. It has to be added that in these two cases no appreciable elongation of the urethra could be recognized before the operation and that, after the healing was completed, no appreciable shortening of the urethra could be found. These two specimens, while *in vivo*, were situated low and developed principally toward the perineum.

The urinary disturbances in these cases have to be explained by compression of the prostatic urethra. It therefore must be assumed that the Zuckerkandl and Tandler rule admits of some exceptions, and that in rare cases tumefaction may take place in parts of the gland that do not encircle the prostatic urethra and are not in any direct connection with it, but are separated from it by unhypertrophied prostatic tissue.

The fact that the "surgical capsule" of the hypertrophied part of the gland is composed of compressed and atrophied glandular tissue furnishes a pointer as to the way access ought to be gained to the tumor to be enucleated. This item emphasizes even more the rule that the covering of the prostate, viz., vesical mucosa and "surgical capsule," should be perforated, not by boring with the finger, but by incision with a knife. I pointed out in former publications that this incision ought to be deepened until the palpating finger can no longer discern tissue movable over the prostatic tumor. The character of this surgical capsule will readily explain the surgical experience that the larger a prostatic tumor is, the easier will be its enucleation—the extensive growth of the hypertrophied nucleus having led to excessive compression and complete separation of the peripheral glandular tissue. It accounts, also, for the occasional difficulty of finding the cleavage and the occasional obstacles to a smooth enucleation. If this differentiation between the peripheral prostatic tissue and the central hypertrophied tissue is not complete, then the operator will encounter rather tense strands that run from



These illustrations show the removed hypertrophied prostatic nuclei in natural size. Each specimen was split in two in order to demonstrate the removed part of the prostatic urethra contained in the tumor. *U* indicates urethra; *P*, false passage.

the central tumefaction to the prostatic shell; these strands consist of the lobular septa and of rests of glandular tissue; if the separation has not taken place at all, then enucleation is out of the question and the tumor has to be dissected out of the surrounding tissue, a condition which is most frequently found in central cancers of the prostate. If such a state of affairs is encountered, then an energetic pressure exerted from the rectal cavity has to bring the whole prostatic region upward and it is imperative to clear the field of operation by means of retractors, so that the parts to be removed can be exsected under the permanent guidance of the eye.

I am convinced that operating in the dark has something to do with postoperative hemorrhages. It is not uncommon, if one makes the mucosa incision under the guidance of the eye, to notice one or two little spurters; it is easy to control these definitely by a Blunck clamp or by inserting an enclosing suture. It is also true that such little arteries in most cases will retract and then cause no more trouble; but, on the other hand, it is an old surgical experience that such arteries, while not bleeding toward the end of the operation, will again commence to bleed when the patient begins to recover from the depression caused by the interference. By working in the dark the operator deprives himself of the opportunity of seeing these arteries and of dealing with them appropriately. The digging out of the prostate in the dark, which as a rule has to be done by using quite a good deal of force, may lead to another source of hemorrhage which, being as a rule overlooked, becomes even more dangerous. The forcible pulling inside of the bladder may lead to the detaching of the anterior part of the viscus from its connections, and to the breaking of the big vein located thereabouts. I have seen such cases *in vivo* and at post-mortems.

For the above claimed preservation of the veru montanum and of the ejaculatory ducts clinical symptoms and direct ocular evidence can be furnished. Every surgeon with an extensive experience in suprapubic prostatectomy will record cases in which the sexual power appears to have improved after the operation or was even revived after the enucleation.

I myself have three cases on record in which the patients reported considerable improvement in their sexual power, which, however, never had entirely vanished before. A fourth patient, a man of 60, who stated that for years previous to the operation no sexual desire or function had existed, complained six weeks after the enucleation of rather frequent nocturnal emissions.

The direct ocular evidence is furnished by urethroscopy. Even if one is dealing with a large material, extraneous influences will prevent one from collecting a large number of urethroscopies in prostatectomized patients; after they are once cured, one will not have the chance of examining a great number of them because some will have left town again and some will object to the inconvenience of a urethroscopy, of the necessity of which they cannot always be convinced.

At all events, I have at my disposal seven urethroscopic findings, gleaned from seven cases of suprapubic enucleation. In all of these seven cases the specimens showed complete removal of the proximal part of the prostatic urethra. In each case the veru montanum and the openings of the ducts could be seen through the urethroscope. The only difference from the normal finding was that the distance between veru montanum and bladder cavity was shortened.

The sinking down of the bladder and the subsequently established contact of the inner urethral ring with the distal stump of the urethra, after the enucleation is once completed, can be very easily demonstrated by the insertion of a catheter immediately after the operation. The catheter passes through the urethra into the bladder without any difficulty; at the same time it can be demonstrated that the whole canal was shortened to the extent of the piece of the urethra removed with the central part of the gland. This shortening of the urethra to the extent of from 1½ to 2 inches can also be demonstrated by measuring the urethra, after once definite cure has been established.

108 North State Street.

A CASE OF PITYRIASIS RUBRA (HEBRA)*

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NEWARK, N. J.

Cases of pityriasis rubra bearing out the requirements of the original description are of such rare occurrence that the following was considered worthy of report.

Regarding the relation of this to other forms of generalized dermatitis, Hebra claimed, in his description, three distinct characteristics, namely, universal dermatitis, scaling and fatal termination. Since his time some writers have been inclined to take a less certain view regarding the fatal ending. Kaposi mentions a case of possible cure, which, however, he does not substantiate, as he lost track of the patient; he also cites another case from the oral statement of a physician.

In the literature of the subject there are no reported recoveries in cases that extended over a long period, and inasmuch as Hebra in an experience with fifteen cases did not modify his opinion, it would seem that more conclusive evidence than has been advanced was necessary to prove the contrary. While I am aware that it will appear presumptuous to give an opinion regarding this phase of the question from an experience with only one case, yet I am prompted to do so by the extreme dissimilarity of the case here reported compared to other forms of generalized dermatitis that have come under observation.

History.—The patient was a Russian, aged 50, a glazier, married and the father of six children. The condition in question extended over a period of about thirty-two years. It began with two oval, isolated, scaly patches on the inner side of the right thigh, which continued without any noticeable change for about sixteen years, when a similar lesion developed on the right side of the abdomen; this was soon followed by others, appearing on various parts of the body without predilection for any particular region. As the patches increased in number, a general dermatitis gradually developed, accompanied by desquamation. The scales were not so large or loosely attached as seen in cases of dermatitis exfoliativa following eczema, psoriasis, etc., but a varying amount of scaling was a constant feature throughout the course of the disease. The color of the hyperemia, light at first, became steadily darker as the disease progressed, until it assumed a deep purplish red in the general eruption, and a dark brown or almost black in the patches. Shortly after the development of the dermatitis, a general atrophy of the skin became noticeable, resulting in the following conditions: the lips became thinned, the nose pinched, the scalp tightly drawn over the vertex, and an ectropion of both lower lids became a

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

* Patient was shown at a meeting of the New York Dermatological Society, Jour. Cutan. Dis., 1899, p. 84.

Fig. 1.—Showing the general characteristics, also ulcerations, on bridge of nose and foot.

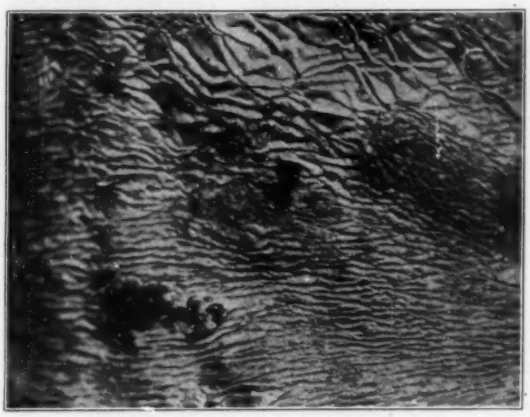

Fig. 2.—Wrinkled atrophic condition of the skin, resembling blotting-paper, and with seborrheal scaly nodules.

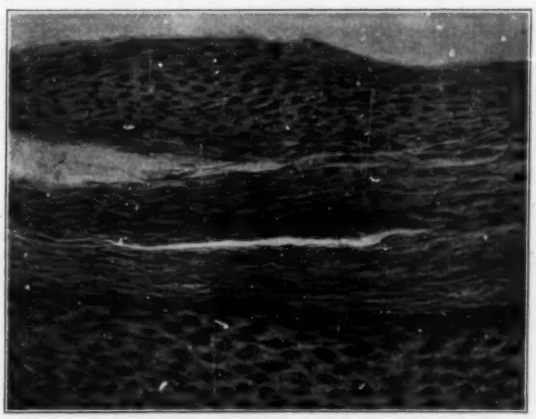

Fig. 3.—Lamellation and retention of nuclei in the horn-cell layer.

Fig. 4.—Cystic dilatations in sweat-glands containing hyaline masses.

Fig. 5.—Vessels of upper corium showing sclerosis.

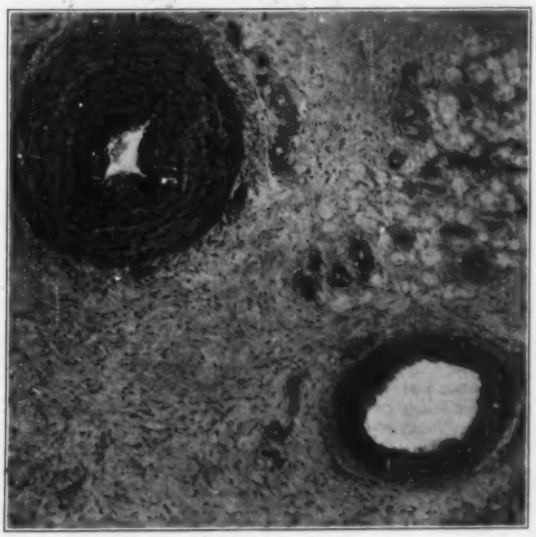

Fig. 6.—Artery and vein of lower corium showing hyperplasia.

prominent feature. The general character of the atrophy was also evident by the loose and wrinkled appearance of the skin over the abdomen and back where it resembled old parchment. On the extremities about the joints, the skin was shrunken and on the flexor surfaces numerous transverse superficial fissures occurred. The hair, including the lanugo hairs, shared in the atrophy, disappearing in all locations. The nails were not noticeably altered. The surface of the skin presented some unusual features; on the face in the location about the mouth involving the chin and sides of the nose, there was a heavy yellowish seborrheal crusting, which would peel off from time to time and reform; on the back and extremities, variously sized epidermal thickenings occurred, consisting of heaped-up masses of closely adherent oily scales that could be peeled off, exposing roughened nodular keratotic excrescences.

The patient was shown at a meeting of the New York German Medical Society and on account of the above apparently

Fig. 7.—Showing absence of elastin in the upper and abundantly present in the lower corium.

beginning tumors, a diagnosis of mycosis fungoides was advanced, but none of these lesions ever developed beyond the above stage during the time he was under observation, a period of about ten years.

No further evident changes occurred, until about a year preceding death, when small pea-sized ulcerations developed, mostly over bony prominences, as the bridge of the nose and the malleoli. Over the external malleolus of the left leg, a dime-sized superficial ulceration appeared, remained quiescent for several weeks, then gradually extended peripherally. Small ulcers developed outlying the border, which increased and coalesced with each other and with the original ulcer, until almost the entire foot became involved in an ulceration extending down through the fascia, muscles and tendons, exposing the metatarsal bones. As the ulceration advanced, the leg became edematous and a very profuse watery, foul-smelling discharge exuded; it could be seen issuing from various points of the ulceration in large droplets. On account of the severe pain accompanying the ulceration, and as nothing seemed to have the slightest effect in controlling the advance of the sloughing, amputation was advised.

Treatment and Course.—The patient was admitted to the Newark City Hospital for operation, and a circular flap amputation was performed at the middle third of the leg under ether anesthesia by Dr. Edward Staehlin; an uneventful recovery followed. About three weeks later, an ulceration appeared over the outer malleolus of the right leg; rapidly extending, it developed outlying ulcerations which coalesced similar to the ulceration described above. The patient now gradually lost strength, an uncontrollable diarrhea developed, the stools becoming involuntary and he gradually passed into a state of coma and died.

Constitutional symptoms during the course of the disease were not a marked feature, consisting only of languor, malaise and gradual loss of strength; chilly sensations, mild at first, increased toward the end, so that the slightest draught would cause intense rigors; perspiration was absent except in extremely hot weather.

Examination.—Nothing abnormal was observed in the thoracic or abdominal viscera. There was a general adenopathy present, most noticeable in the inguinal and axillary regions. Blood examination showed a slight leukocytosis with no distinct predominance of any special forms of leukocytes; and no abnormal erythrocytes were observed.

Fig. 8.—Showing numerous mast-cells and large masses of blood pigment.

Pathology.—Sections were fixed in Müller's fluid and formaldehyd solution and stained variously with hematoxylin-eosin, Unna's polychrome methylene-blue, Wright's method for elastin and Van Giesen's picric acid fuchsin for connective tissue.

The changes in the epidermis corresponded somewhat to the conditions of a parakeratosis; the nuclei of the horn-cells were retained; cohesion was lessened as evidenced by lamellation in some specimens, and separation of individual cells in others. In the cells of the stratum lucidum, the nuclear spaces appeared vacuolated and contained rod-like remnants of nuclei. The stratum granulosum was increased. The cells of the rete were swollen and the intercellular bridges widened. The stratum cylindricum appeared normal. The papillary processes were considerably lengthened and extended down in narrow processes.

The corium presented atrophic changes chiefly limited to the upper region. The collagen of the papillary and subpapillary regions stained only faintly, or not at all. Just below the region of the cutaneous network, the color reaction gradually reappeared, becoming about normal in the deeper corium; elastin was abundantly present in the lower corium, but as the location above mentioned was reached it disappeared quite abruptly and was entirely absent in the upper

corium and papillary processes. Large particles of yellowish pigment were present in this area of degeneration, and numerous variously shaped cells, small lymphoid cells with well-stained nuclei and faintly stained protoplasm, were seen in groups in some of the papillary processes, also around the blood-vessels and sweat-glands. Intermingled and scattered between these foci, oval and round cells resembling endothelial cells were present, often arranged in irregular rows; they probably resulted from degenerated blood-vessels. Mast-cells were a predominating feature; in the upper corium, fifty could be counted in a field (1/7 obj.); seventy were counted in a single papillary process. In the papillæ, they were arranged with the long axis perpendicularly; as the lower corium was reached, they became less in number, until only one or two could be counted in a field. Plasma cells, though diligently sought, were not observed in any of the specimens examined. The walls of the vessels were thickened and had lost their normal twisting. Cross-section showed an arteriocapillary sclerosis, and in some vessels entire hyperplastic obliteration of the lumen occurred. The walls of the veins were also thickened and greatly dilated. The sweat-glands showed cystic dilatations with masses of hyaline material. No hair follicles or sebaceous glands were observed in any of the specimens.

In the literature of the microscopic findings we find a wide difference in results, generally due to the stage of the inflammation at which the examinations were made. In early cases reported by H. von Hebra and Crocker, simple inflammatory conditions of the upper corium with parakeratosis are recorded. In cases that extended over a long period, the results, while not uniform, seem to agree regarding the region most involved and the character of the changes. H. von Hebra in a case of thirty years' duration found the corium degenerated and infiltrated with cells. The degeneration was most evident in the upper corium where the ridge net and papillary body had disappeared; then followed a thin layer of cellular infiltrated cutis, below which the cellular infiltration gradually disappeared; this location was rich in elastic fibers and pigment granules which in some specimens extended up to the epidermis.

Petrini and Babes in an early case found a parakeratosis with increase in the keratohyalin and, in a later examination, parakeratosis with a feebly developed granular layer. In the corium they describe changes slightly different from other observers; the connective tissue fibers were thickened and sclerosed; elastic fibers were abundantly present, but they do not state that this was so for the papillary layer, in which they found a thin and sclerotic quality of the papillæ. The vessels were thickened and had lost their normal twisting; cross-section showed thrombi. The hair follicles were atrophic; the sebaceous glands had disappeared, and the coil glands contained hyaline masses.

Jadassohn found the same changes in the epithelium as Petrini and Babes, but does not confirm the degeneration of the connective tissue or blood-vessels. He particularly mentions mast-cells, which he found very numerous in the papillary body and around the coil glands.

The case here reported embodied nearly all the changes severally reported by these observers. Briefly summarizing, the most important condition in the above findings calling attention to the grave character of the disease was the degeneration found in the vessel walls. Comparing the general findings and clinical course of the disease, we can assume that the process primarily involves the capillaries as is evidenced by the early hyperemia gradually involving the vessel walls in an obstructive hyperplasia followed by degeneration; thus accounting for the gradually deepening color of the hyperemia due to the deposit of blood pigment in the corium. The atrophic changes are also accounted for as the result of the hardening of the vessels and consequent malnutrition. The peculiar progressive character of the ulceration was explained as follows: the primary pea-sized ulcer developed as the result of the obliteration of a small arteriole, apparently remaining quiescent until several neighboring branches shared in the process of occlusion, then coalesced and finally extended down through the underlying tissues as the deeper vessels became involved. From the microscopic findings we can assume that in pityriasis rubra we have a condition producing changes in the histologic structure of the skin of a permanent character, and until some remedy is found or the etiologic factor isolated and controlled, these cases will nearly, if not always, substantiate the prognosis as advanced by Hebra.

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ABSTRACT OF DISCUSSION

DR. A. RAVOGLI, Cincinnati: In my younger days, while in Vienna, I had the opportunity of seeing a case of pityriasis rubra of Hebra. In that case there was a diffuse redness all over the body, which was covered with thin, bran-like scales, and Professor Hebra insisted on those lesions as certain characteristics of the skin in these cases; moreover, he showed that it would not be elastic, and in consequence would be distended above its possibility. On this feature he insisted. In that case there was no crusting and very little exudation. That patient died from tuberculosis. In another case which Hebra reported, death was also due either to tuberculosis or to some other pulmonary trouble, and in consequence of the frequent association of the pityriasis rubra of Hebra with tuberculosis it has been considered that this skin disease was produced by a general tuberculous condition. At the present time there is considerable confusion in the minds of dermatologists in regard to pityriasis rubra and dermatitis exfoliativa, forms which must be separated. I have seen several of these cases, and I can say that if the patient failed to recover, the case was regarded as one of pityriasis rubra Hebra, while when he recovered it was regarded as a case of dermatitis exfoliativa. As it is, we have no clear conception of these chronic forms of exfoliating dermatitis, and any light which can be given on this subject has to be cheerfully accepted.

DR. WILLIAM S. GOTTHEIL, New York: What Dr. Ravogli said in regard to the confusion that exists between the recognition of pityriasis rubra of Hebra and dermatitis exfoliativa is undoubtedly true, and yet typical examples of these two diseases are entirely different. We all see more or less of dermatitis exfoliativa; it is not a very rare disease, and while the condition of the skin, the redness and thickening, is quite similar to that observed in pityriasis rubra, the scaling is entirely different. A typical case of pityriasis rubra—I have seen perhaps one or two—does not look at all like dermatitis exfoliativa.

DR. H. J. F. WALLHAUSER, Newark, N. J.: I agree with Dr. Ravogli that we are more or less mixed up in regard to the classification of the exfoliative dermatites. He made the statement, however, that all cases of generalized dermatitis exfoliativa that ended fatally were of the Hebra type. I had a case recently in which the patient developed a large, scaling, light-colored eruption, and gradually succumbed, and yet a microscopic examination of sections of the skin in that case showed a condition entirely different from that observed in pityriasis rubra. The eruption was different both in its color and method of scaling, yet the patient died from symptoms very similar to those seen in the chronic form. I recall another case of generalized exfoliative dermatitis closely resembling the Hebra type in which the patient recovered, and I have come to the conclusion that we have a great variety of etiologic factors for this type of eruption. Still, I believe that the Hebra type is a distinct disease and different from all other clinical forms. It differs in the color of the hyperemia and in its progression, and, as Hebra insists, it must be accompanied by atrophy.

CANCEROUS DEGENERATION IN CHRONIC LEG ULCER *

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Deference to mistaken usage has determined the title of this paper, the symptom of ulceration being an epiphenomenon in many dermatoses ranging from simple inflammation on the one hand to cancer on the other. The ulcers herein referred to are those so common on the lower limbs as a complication of ordinary dermatitis, which enjoy the additional usual misnomer of varicose ulcers.

Cancerous degeneration of the skin, most common on the face and hands as the parts most exposed to irritation and infection, usually develops on the basis of a senile hyperkeratosis or a benign new growth. It also occurs as an end-result of various ulcerative processes, such as those occasioned by trauma, pus infections, tuberculosis, syphilis and leprosy; and of late years we have had abundant reason to dread the irritant action of the *x*-ray in determining the occurrence of malignant cutaneous degeneration. In rare instances cancer has occurred at the site of psoriatic lesions, or on areas affected with lichen planus, lupus erythematosus and other comparatively innocent affections; and some relationship between the two sets of phenomena has necessarily been assumed. Ignorant though we still are of the etiology of cancer, experience has demonstrated beyond cavil that there are certain factors that favor its development. Undoubtedly the most common of these is irritation; overstimulation, chemical or mechanical, as from inefficient cauterization, curetting or scratching, or from the presence of extraneous matter, necrotic tissue, or decomposing secretions, the noxæ of pus organism and other superinfections, the disturbing action of sunlight and the various new therapeutic rays — all these promote the progress of cancer if they do not directly occasion its advent. Of late years I have come to realize the importance of these factors as I never did before, and to pay the most scrupulous attention to the dressing and care of ulcerations of all kinds. And under such care and cleanliness alone I have several times seen indubitably carcinomatous ulceration of considerable extent heal up entirely; I have seen them "cured" in the same sense that I have seen numerous epitheliomas cured by the *x*-ray, and even one or two by that latest fad in skin cancer therapy, Thoremedin. In the specifically treated cases as in those subjected to care and cleanliness only, it seems a mistake to talk of cure at all; the abnormal epithelial proliferation is checked in its advance, the ulceration may epidermidalize completely and the result, in the special case and under the special circumstances, may be satisfactory; but the tumor remains, and may at any time show signs of renewed growth. In both sets of cases also a not inconsiderable part of the therapeutic effect, and possibly almost the whole of it, has been due to the scrupulous cleanliness and the avoidance of the pus infections and other irritations that play so considerable a part in determining the progress of carcinomatous infiltration and breaking down.

Fig. 1.—Carcinomatous degeneration of ulcer on right leg of woman aged 76 (Case 1).

Now in none of the more common ulcerative skin affections would the conditions for the development of cancer seem to be more favorable than in chronic dermatitis with ulceration, the neglected and despised varicose ulcer of the leg. The extreme chronicity of the inflammatory process, often lasting for many years; the age of the patients, which is usually advanced; the almost inconceivable neglect of their lesion in many cases, so that the persistent presence of foul and decomposing secretion and of the products of tissue necrosis is common; the frequent absence of even an attempt at rational treatment; the usual presence of vascular and lymphatic conditions in the skin of the part affected that entirely prevent any spontaneous attempt at cure; the fact that most of these patients are compelled to be on their feet all day and thus to keep up and increase the unfavorable vascular conditions, and finally the circumstances that in many of them the added noxæ of alcoholism, of renal or cardiac disabilities, or of other chronic affections are also present, all these would lead to the presumption that in this ulcerative lesion of all others carcinomatous degeneration would be most common. Yet the very reverse is the fact.

Fig. 2.—Carcinomatous degeneration of ulcer on right leg of woman aged 50 (Case 2).

Common experience, in so far as it has fallen to my lot personally, and as I have been able to ascertain it from inquiry among those whose work in the large metropolitan surgical and dermatological clinics leads them to see multitudes of these cases, is to the effect that the secondary development of cancer is so rare as to be practically unknown. In the City Hospital, where there is a ward in the dermatological division devoted exclusively to these cases, the record is the same. A search of the literature made for me by Dr. Satenstein has resulted in the finding of only ten recorded cases,

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

three reported by Nobl,[1] two by DaCosta,[2] and one each by Kaposi,[3] Neumann,[4] Gant,[5] Woolsey[6] and Morestier. Nevertheless, while so few cases of cancer secondary to varicose ulceration have been reported, and while many of the text-books do not even mention the possibility of its occurrence, some of these latter refer to it in quite a casual way, as if it were an occurrence so common and of such little consequence as to barely merit notice, impressing one with the idea that a venerable surgical tradition rather than actual experience on the writer's part is its source. Thus Bryant and Buck say that chronic ulcers in elderly people and lupus patches may at times undergo epitheliomatous transformation,[7] and, again, they describe cursorily the superficial signs of this change;[8] yet they make no mention of it when discussing the varicose ulcer itself.[9] Tillman[10] merely says in small print that epitheliomas sometimes develop in old ulcers of the leg of large size among people advanced in years. An occasional reference is made, as in DaCosta,[2] to "Marjolin's ulcer," which is apparently an old name for the lesion under consideration; but of Marjolin himself, and of the case or cases on which his observations were founded, I have found no trace. Nobl,[1] in his very exhaustive monograph on the varicose condition, devotes three pages to cancer, mostly occupied, however, with an account of his three cases. Regarding the frequency of its occurrence, he says that the very scanty data give us no indication at all. In a number of Viennese clinics, where numerous leg ulcers were constantly being treated, not a single case of the kind had been seen during the last few years. In a very large institution with more than 4,000 patients, and where about 200 leg ulcerations were under treatment, he found only one case of cancer, which he includes in the three new ones that he records. The complication is one of the very rarest.

Fig. 3.—Carcinomatous degeneration of ulcer on left leg of woman aged 60 (Case 3).

To the eight cases above mentioned I add three. I do not propose to detail their histories, which differ in no respect from those of thousands of others in which cancerous degeneration does not take place. In two of them the ulcerations were extensive, but by no means remarkably so; in the third case the area affected was comparatively small. All three cases had been more or less neglected, and were in bad condition from retained and decomposing secretions and necrotic tissue when first seen; but here again the local conditions were no worse than is commonly seen. The chief objective sign that differentiated these cases from others was the presence of tumors or tumor masses, either in the shape of prominent tuberous and curled edges to the ulceration, with masses of hypertrophic tissue in the adjacent base of the lesion, or a general elevation of the entire denuded area, so that it projected a centimeter or more above the level of the surrounding skin.. A description of the three cases when first seen will suffice.

CASE 1.—This patient, a woman, aged 76, in the City Hospital, had suffered from the dermatitis since the menopause many years ago. Her right leg was the seat of an old inflammatory process, chronic in type, of moderate extent, and non-ulcerated, though the scar tissue present showed that that process had been present in the past. Her right leg showed the carcinomatous changes. From the knee down to the beginning of the middle third of the limb, extensive areas of

Fig. 4.—Microscopic view of the indurated margin of ulcer from Case 1.

scar tissue and deep pigmentation showed the former ravages of her affection. The entire lower half of the leg was occupied by a deep ulceration extending almost around its circumference; it spread over one-third of the dorsum of the foot below, and below the malleoli on either side. The entire ulceration, save at its upper margin, was bordered with immensely hypertrophied, rolled and convoluted edges, which were quite hard and fairly sensitive. Isolated and confluent tumor masses of a consistence and appearance very similar to the edges were scattered over the base of the ulceration, chiefly in the neighborhood of the margins. I was unable to obtain from the senile patient any definite statement as to how long the hypertrophic masses had been present.

CASE 2.—This patient, a man, aged 50, in the Lebanon Hospital, had had ulceration of the right leg for fifteen years; the left was unaffected. The entire middle third of the leg was occupied by the ulceration; for about a year, the patient said,

1. Nobl: Der Varicose Symptomcomplex (Phlebectasie, Stauungsdermatose, Ulcus Cruris), Berlin, 1910, p. 143.
2. DaCosta: Ann. Surg., xxxvii, 496.
3. Kaposi: Arch. f. Dermat. u. Syph., lvi, 429.
4. Neumann: Ann. de dermat. et de syph., 1898, ii, 1058.
5. Gant: Lancet, London, 1889, p. 699.
6. Woolsey: Ann. Surg., xliii, 610.
7. Bryant and Buck: The American Practice of Surgery, i, 231.
8. Bryant and Buck, ii, 185.
9. Bryant and Buck, ii, 178.
10. Tillman: Tillman's Surgery, iii, 824.

"proud flesh" had been appearing in it, and increasing. Here the margins of the ulceration were not much involved; they were flat and sloping. But a large portion of the area of the base of the lesion was studded with exuberant, fleshy, tumor masses, so that its general surface was distinctly raised above that of the unaffected skin.

CASE 3.—This patient, a woman, aged 60, was received in the City Hospital. Her left leg had been ulcerated for many years, and showed over most of its surface the scars and pigmentations of an old chronic dermatitis. On its lower third, just above the ankle, was an irregular, band-like, ulcerated area, almost entirely occupied by a hypertrophic tumor mass raised from 2 to 3 cm. above the general level. Its color was pale red; it was glistening and dry, and it could be separated at the margins from the edges of the ulceration which it almost entirely occupied. The anterior portion of the ulceration, alone, was not filled with the mass; and here it presented the appearance of an ordinary dermatitic ulceration, though nodular excrescences similar to the main tumor were beginning to appear in its base.

These cases were observed several years ago, before the advent of the Wassermann test; but in all of them syphilis was excluded both by their appearance and by the absence of results from a vigorous mercurial and iodin treatment. A microscopic examination showed all three to be cancerous; and as the findings in each case were typical and practically identical, I shall content myself with demonstrating a single photomicrograph of a section from the first one (Fig. 4).

In all three cases radical surgical interference was advised. The first patient was transferred to the surgical service, where an amputation was successfully performed. The other two refused treatment as advised, and were lost sight of.

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ABSTRACT OF DISCUSSION

DR. H. H. HAZEN, Washington, D. C.: Dr. Gottheil's paper reminds me of a case which was recently observed in my service. The patient was a negress, 47 years old, who for the past fifteen years had suffered from varicose veins and an ulcer on the lower part of the calf of the left leg. An operation was done on the veins, and shortly after this operation an eczema set up around the ulcer, which was only about 2 cm. in diameter. With the onset of the eczema, however, it immediately began to enlarge, and when I first saw her it was about 15 cm. in diameter, and was undoubtedly cancerous, with an ulcerating center. On biopsy, a typical epithelioma was demonstrated, with large masses of fibrous tissue. The patient refused an amputation, and after an unsuccessful attempt to excise the ulcer, it was treated with the curet and the application of acid nitrate of mercury. The central portion of the lesion could be scraped off, but no impression could be made on the hard, surrounding tissue, which resembled a scirrhous carcinoma.

DR. M. L. HEIDINGSFELD, Cincinnati: It seems remarkable that chronic, persistent inflammations of the leg which are exposed to prolonged and severe irritation should remain simple in character, when a much lesser degree of similar influence is promptly followed by malignancy over a more predisposed area, as, for example, that of the face. A very large part of our lying-in patients on the dermatologic service of the Cincinnati General Hospital have chronic ulcerations of the leg. Recently I have had occasion to try out with rather remarkable success a new form of basic fuchsin ointment. In establishing the history of some of these cases, I was surprised to learn that the majority had been inmates of the institution, off and on, for periods ranging from six to sixteen years. The duration of the ulcers was in some cases much longer and the average case was well over six years. Among the many cases of leg ulcer which I have seen on this service, only two, to my recollection, showed distinct evidences of malignancy. One of these cases, a carcinoma epitheliale cicatrisans, was included in the paper which I have presented to this Section.

DR. A. RAVOGLI, Cincinnati: I do not see anything extraordinary in the observation made by Dr. Gottheil that long-standing ulcers of the leg may at times show malignant changes. In these cases we have to deal first with an impaired nutrition of the tissues, which renders them more susceptible to an external infection, malignant or otherwise, and we have, moreover, changes in the epithelium, with more or less constant irritation, and in consequence of this the connective-tissue cells become enlarged and hypertrophied, and the ultimate result is formation of a chronic proliferation which we call carcinoma, when it assumes malignant tendency to destruction and to infection.

DR. L. DUNCAN BULKLEY, New York: I did not think there was very much doubt among dermatologists about the question raised in Dr. Gottheil's paper. I have seen a number of these chronic leg ulcers followed by cancerous degeneration, and I believe if they were more carefully observed and more frequent biopsy examinations were made, the presence of malignant changes in these lesions would be much more frequently demonstrated than is now generally supposed to exist.

DR. WILLIAM S. GOTTHEIL, New York: Dr. Ravogli apparently misunderstood the purport of my paper, which was to emphasize the fact that in spite of all the conditions favoring the development of cancer in these cases of chronic leg ulcer, only ten cases could be found recorded in the literature, in addition to the two cases reported by myself. It was to the infrequency of the cases rather than to the apparent causes favorable to its development that I wished to direct attention.

SUCCESSIVE COW-POX VACCINATION

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The subject of cow-pox vaccination was first studied by Jenner, in 1798. Following his work numerous other investigators took up the problem and many valuable additions were made to the earlier findings.

The work of Jenner and his contemporaries was so complete and thorough that practically no clinical additions were made to their findings until the question was made the subject of an exhaustive study by von Pirquet, entitled, "Klinische Studien über Vakzination und Vakzinale Allergie" (1907). By means of exact measurements of the local lesions, associated with studies of the general reaction, and comparative tabulation of results, this author placed the entire subject on an exact scientific foundation which will serve as the basis for future work.

The following work deals with a continuation of investigations in vaccinations based on the experiments performed by von Pirquet.

METHOD OF VACCINATION

The technic employed in the vaccination of this series of cases was briefly as follows:

The skin on the lateral surface of the upper arm was washed clean with ether. A small amount of vaccine was taken on the end of a von Pirquet scarifier. By a rotary, boring motion the platinum edge was pressed on the skin firmly enough to denude only the superficial epithelium, care being taken that no appreciable amount of blood be drawn. In all cases a control point was similarly made with the scarifier.

The surface denuded by such a method was circular in outline and measured approximately 1 mm. in diameter. In the first series of cases six points of vaccination were made simultaneously, three on each upper arm. Precautions were taken that the vaccinated areas should

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neither be bandaged nor treated in any manner, in order that the course of development could be followed under as favorable conditions as possible.

MACROSCOPIC APPEARANCE OF VACCINE SPOTS

The first local phenomenon to draw one's attention following inoculation was that directly due to trauma. Within a few minutes after completion of the vaccination the skin immediately surrounding the point of inoculation assumed a reddish hue which varied more or less in intensity according to the sensitiveness of the individual, the amount of pressure employed, the area of skin chosen, etc. In a few hours this redness due to trauma diminished in intensity and within forty hours the remaining hyperemia had disappeared. Within the first few hours the hyperemic area reached a diameter of 5 mm. on an average, and then completely disappeared on the day following. All that was noticeable thereafter was a brownish crust or scab surrounded by normal skin. The traumatic reactions of both control and vaccine points were identical in all respects with the exception of color which was slightly more yellowish in the case of the vaccine spots.

SPECIFIC REACTION

1. *Development of the Papule.*—Following the reaction due to trauma a period of latency intervened averaging three days in duration, during which no changes were observed in any of the points, that is, approximately from the middle of the second day to the middle of the fifth. The first evidences of specific reaction in the points of inoculation appeared on the sixth day, or approximately 120 hours after inoculation. By this time all evidences of traumatic reaction in the control points had entirely disappeared.

The first change noticed around the points of inoculation following the period of latency was a redness. The region was vaguely palpable. On the succeeding day the area of redness had increased in size and intensity and the papule formation had begun. The area of redness was definitely raised above the skin and distinctly palpable on the seventh day. The redness disappeared on pressure leaving a dim yellowish hue.

2. *Differentiation of Papilla and Aula.* — On the eighth day another decided change occurred. The summit of the papule had become flattened, plateau-like and showed a precipitous edge, well defined from the surrounding skin, which may be termed the papilla.

Coincident with the development of the papilla was the formation of the aula, a term applied to the sharply delineated hyperemic zone surrounding the papilla. It appeared at this stage that the papilla was formed from the concentration of the exudate, which before had been evenly distributed throughout the hyperemic area.

3. *Development of Area.* — The papilla and aula showed a fairly parallel growth for about forty-eight hours. On the tenth day another striking phenomenon occurred. The zone of hyperemia showed an increase in growth out of all proportion to that of the papilla. Within four days the extent of this hyperemia reached its maximum of 56 mm. in diameter. The papilla had also, during the same period, attained its maximum development of 10.5 mm. in diameter.

This hyperemia, or area accompanied by an infiltration of the underlying tissues, was the most striking feature of the vaccination process. The area formation was sudden in onset and rapid in development.

4. *Further Stage of Papilla Development.*—Directly following the maximum development of area and papilla the process of involution began.

In its onset the papilla presented a pale pinkish-gray color. This took on a more yellowish-gray hue as growth proceeded. The time of the most intense yellowish color was displayed at the height of development. After this point was reached observation of the color-changes were disturbed by the rather rapid drying out of the central region and the formation of a crust. The onset of the drying-out process in the papilla was the surest indication of the maturity of the process.

Throughout the entire development of the papule a small central crust could be observed. This had its origin in the primary traumatism. It appeared to be the starting-point of the final drying-out process which led to the formation of the large crust.

After fourteen days all that remained of the papilla was a thick, brown crust or "scab" surrounded by a pigmented skin which had taken the place of the area. If the scab was removed by scratching, a roughly circular ulcer remained with grayish-white base and rough edges. A fresh scab was rapidly formed which was thinner and of lighter brown hue.

The scar following involution was in the first few weeks of a pinkish hue with an even surface. This gradually was superseded by the usual whitish, smooth, glistening scar with fairly well-defined edges which persisted in most cases throughout life.

DEVELOPMENT OF PAPILLA AND AREA IN SUCCESSIVE VACCINATION

The technic employed in these vaccinations was similar to that already described. Instead, however, of making all vaccinations at the same time, single inoculations were performed on successive days for two weeks or more. After three or four points of inoculation had been made on either upper arm, further inoculations were performed on right and left backs.

A series of five subjects, varying in age from 3 months to 2½ years, was subjected to this method of vaccination. Daily observations were made at the same hour during the process of development. Measurements were made of the diameters of the hyperemic areas—and, after differentiation, of the papillæ, areas and infiltrations. The main features in the development were quite similar to those of the first series of cases with several simultaneous inoculations.

Our attention was principally directed to the relation of time of development of papilla to that of area, and to the influence of previous vaccinations on the successive ones.

REPORTS OF CASES

CASE 1.—Hannah B., 3 months. In this case sixteen vaccinations were performed on successive days. Four points reacted, namely, those of the first, third, sixth and eighth days. In the case of the first point, papilla formation began on the fifth day after inoculation, in the third point on the sixth day, in the sixth point on the fifth day, and in the eighth point on the fifth day. These figures show rather conclusively that approximately equal periods of time elapsed in each point following inoculation before papule formation became evident, a fact which speaks for the *local* nature of the papule formation.

Another feature of interest was that the maximum points in the development of the individual papillæ fell approximately on the same day and, following this, involution in all points set in. Closer observation showed that the maximum diameter was less in each point than that preceding. The figures of diameters in this case were 9.5, 7.5, 7 and 7 mm. One may conclude from this phenomenon that changes of a general nature occurred in the organism which retarded the further development of the papule.

With reference to the time of differentiation of papilla and area in successive inoculations the following phenomena were noted: In all four points reacting positively the onset of area formation was practically simultaneous and occurred between the ninth and tenth days following the first inoculation. That is, the earlier the inoculation, the longer the period which elapsed before the onset of area formation was observed. Thus, in the first point nine days intervened between time of inoculation and time of onset of area formation, seven days in the second point, five days in the third point and three days in the fourth point. From these observations one may reasonably conclude that the area formation is a general reaction on the part of the organism and that it is not influenced by the local reaction. It was also observed that the diameter of each area was less than the diametcr of that preceding.

Case 2.—Berta G., 1¾ years (anemia, gastro-enteritis). In this case eighteen successive vaccinations were performed at daily intervals. Those of the third, fourth, fifth, sixth, seventh and ninth days resulted in positive reactions. The same phenomena as noted in the previous case were also present in this one. The simultaneous development of the areas was even more strikingly shown, i. e., the later the inoculation, the less the time which elapsed before the area formation began.

The formation of the areas in all points was simultaneous, the differentiation of aula and papilla taking place independently as a local phenomenon.

Case 3.—Gertrude D., 10 weeks, healthy. In this case nine successive inoculations were performed. Just preceding these six simultaneous inoculations had resulted negatively. Development of areas occurred on the same day as in previous cases, in the positive points. No new phenomena were noted.

Case 4.—Hedwig B., 3 days old. Out of nine successive vaccinations only two points resulted positively, offering insufficient data for definite conclusions.

Case 5.—W. H., 2½ years; hereditary lues, anemia. This case illustrates probably more clearly than those described the relative developmental phenomena of area and papilla. Nineteen successive vaccinations were performed of which those of the first, second, third, fourth, fifth, sixth and ninth days resulted positively with formation of papilla and area.

A noticeable feature in the reaction was the absence of the aula in all points. In all other cases this preceded the formation of area. The severe anemia present in this case was doubtless the causative factor of this condition. This state of affairs made all the more striking the simultaneous appearance of the area formation in each positive point.

In points 1, 2, 3, 4 and 6 the area formation began on the tenth day following the first inoculation and reached its maximum extent within twenty-four hours. This showed again how much earlier the area formation occurs in the later inoculated points.

We conclude that at this point the maximum reaction on the part of the organism has been attained. The antibodies, specific for the vaccine microorganisms, have gained the upper hand and immediately following this, the process of involution sets in, As noted before, the later inoculation called forth a less intense reaction as illustrated in the gradual diminution in the diameter of the areas formed. In this case the infiltration was especially well marked and corresponded closely in extent with that of the area.

The curve shows the maximum points of area and papilla formation to coincide approximately. The later the formation of the papilla, the less its extent of development. The attainment of the maximal reaction on part of the organism as illustrated in the area curves, also has a local effect, in that it hinders or aborts the further development of the papillary reaction.

CONCLUSIONS

In confirmation of the results obtained by von Pirquet, we found the papilla formation in cow-pox vaccination to be a local phenomenon. The independent development of each infected point as evidenced by the time of onset, the duration and other local manifestations bear out this point. It is a local reaction, however, only until the maximum of development is attained.

Involution begins simultaneously in all points in whatever stage of local development they may happen to be. Therefore, the involution may be regarded as due to a general reaction or change in the organism.

The area formation is undoubtedly a general reaction on the part of the organism. This is clearly portrayed in the simultaneous formation of area in all points in successive vaccinations at the same time with a rise in body temperature and other signs of constitutional disturbances which are in general corresponding in degree to the extent and intensity of area formation.

TRANSPLANTATION OF THE HUMAN CORNEA PREVIOUSLY PRESERVED IN AN ANTISEPTIC FLUID

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The idea of replacing by transplantation, in cases of leukoma, the opacified part by a graft of transparent cornea, is one which has occupied the energies of ophthalmologists for a long time. It is now nearly a century since Riesinger first undertook this task. Without entering into historical details, it will be sufficient to mention that the corneas of animals, as well as various transparent substances, from small round pieces of glass or celluloid to membranes of fowls' eggs, have been tried.

Numerous difficulties and disappointments have cooled the ardor of experimenters and finally it was found that inert substances always acted as foreign bodies and were eliminated more or less rapidly.

On the other hand, trials of heteroplasty, that is to say, of lower-animal tissues transplanted on man, had no better success in the cornea than the transplantation of glands or the transfusion of blood. The progress of modern biology has taught us that cytolysins are formed in the organism, this result being the process of defense against these heterogeneous elements borrowed from other species.

The only human transplantation that has given encouraging results is homoplasty, i. e., transplantation from man to man, of which there are in the annals of surgery half a dozen successful examples. In these cases there is no question of different species, but of similar species, in which favorable biologic conditions are better observed. It is, however, difficult to realize two essential factors that are required for success in this operation; on the one hand, healthy tissue for grafting; on the other, two different patients whose presence may be had without waiting. I have, in consequence of these difficulties, endeavored to avoid one drawback, but to accomplish this it is necessary to preserve and keep on hand healthy cornea. As a matter of fact, it does happen occasionally that one has the good fortune to enucleate intact an adult eyeball — intact, at least, so far as its anterior segment is concerned—or (often a better source of supply) one may take advantage of material from maternity hospitals and utilize the corneas of still-born children. Unfortunately, this material is often far from

the operating-room and it is very important to be able to collect and preserve it for use at an opportune moment.

We all know with what rapidity the cornea loses its transparency and how quickly its epithelium desquamates after death. The problem, therefore, is how to keep in a living state for a reasonable length of time the cornea of an eye separated from the rest of the organism.

This problem is, properly speaking, one in general biology. It was stated in a practical fashion for the first time by Carrel in 1909, in connection with his experiments on blood-vessels. This author, inspired by the previous researches of Ranvier, Ljungren and Jolly, endeavored to reunite the peripheric and central ends of veins by means of sections of similar organs kept in a state of preservation for several weeks. These experiments, which caused a great deal of comment at the time on account of their novelty and practical interest, appear to Fleig to have been based on an erroneous biologic interpretation.

The survival of histologic elements is, however, possible. Renewing the experiments of Ranvier and Jolly, in 1903 and 1910, showed that the leukocytes of the frog and the triton may resume their ameboid movements and their phagocytic power after having been preserved at 0 C. for several weeks in the blood of the animal. These animals are, however, cold blooded.

Much more interesting is the recent experience of Fleig with the spermatozoa of the rabbit. Having preserved a certain number of these elements in blood-serum placed in an ice-box, he found that, at the end of ten or twelve days, on being gently heated, they performed their well-known undulatory movements.

Spermatozoa and leukocytes, however, are self-sufficient cells which do not form tissue. Can the same result be obtained in the case of a membrane as complex and delicate as the cornea? This is the question that I in my turn have endeavored to answer.

When I began my researches (about three years ago) by experimenting on rabbits, I was desirous of imitating Carrel, and, following his example, placed the cornea in sealed tubes and in a moist atmosphere; but this method, which is satisfactory for blood-vessel surgery, did not prevent the rapid desquamation of the corneal epithelium and deterioration of the corneal tissues. On removal from the medium, the eye was found to be decidedly hypotonic, and the corneal epithelium came off in the form of a syrupy coating. It was evident, therefore, that the outcome of the treatment was merely the aseptic preservation, with the exclusion of air, of a dead tissue.

Ringer's solution, and above all, Locke's, were the first artificial mediums that gave me encouraging results. I was able to graft corneas which had been kept by these means for two days, but this period seemed to be the maximum. On the other hand, the defibrinated blood of an animal of the same species (especially its serum) gave me a cornea in a remarkable state of preservation. The mixture of Locke's liquid and serum, which Fleig found superior to pure serum for the preservation of muscle tissue, proved to be distinctly inferior to blood alone, a fact that suggests the hypothesis that its preservative action is due to bodies that are antagonistic to autolytic enzymes. This may be possible, but it seems to possess, in addition, certain vital properties, particularly when it contains hemoglobin in solution.

At present I am endeavoring to obtain, without injecting a foreign substance into the system, serum hemolyzed as far as possible, as, I believe, that, if the tissues are to remain vital, it is necessary to furnish them with a medium in which osmotic exchanges are possible.

The preserving serum is accordingly taken, not from the blood of the animal which has furnished the cornea, but from one of the same species. Every aseptic precaution being regarded, the ocular bulbs are immersed in this liquid and immediately placed in an apparatus which keeps them at a certain temperature.

The question of temperature is very important. I have found that the cornea when kept at a few degrees below 0° C. rapidly loses its transparency. It quickly becomes translucent and in spite of every care taken to warm it up, the opalescence remains; the cold seems to produce certain histologic changes in the organ which are incompatible with life.

On the other hand, when the cornea is kept at the temperature of melting ice it remains remarkably clear for some days, although it afterward loses its transparency in places and its epithelium desquamates at the slightest touch.

I am of the opinion that a temperature effective for practical work is between 5° C. and 8° C. In any case, eyeballs preserved in this manner are so firm and their mediums are so clear that it is extremely easy to distinguish by transillumination the optic papilla—as easily as one can generally see it in a recently enucleated globe.

I have in this way been able to obtain perfect preservation of enucleated eyes for from twelve to fourteen days. I believe, however, that this period can be increased. On one occasion I was able to reach the twenty-fifth day by renewing the liquid medium every five days.

The cornea is not the only portion of the globe that appears to retain its vitality when preserved in this fashion. In these preserved eyes I have been able to obtain, by faradic excitation, a dilatation of the pupil; a slow movement it is true, but experimenters know how feeble, even on the fresh eyeball of the rabbit, this reaction is and how the pupil nearly always expands, and rarely contracts.

But, however satisfactory these results may be, it is necessary to prove, particularly in the case of the cornea, that there is a genuine prolongation of vital processes. For the solution of the problem there are two methods: (a) simple histologic sections, and (b) experimentation.

The first method, though it may show us apparently normal elements can yet only afford indications of an anatomic rather than of vital preservation. On the other hand, keratic transplantation can tell us whether or not a segment of preserved cornea implanted on a living animal of the same species continues to live. Histologic sections of the graft made at varying periods after the operation serve as a control test.

I perform this transplantation by removing from a living animal a corneal parallelogram of about 6 mm. in length by 5 mm. in breadth, so as to leave a depression reaching to Descemet's membrane, but without injuring it. It is in this cavity that I place a section of equal size (the epithelium on the outside) taken from the cornea of a preserved eye.

The results have been as follows:

Macroscopically, when the grafted cornea has preserved its vitality and when coaptation is good, the segment, if examined after the twentieth hour, is found to have adhered entirely to the subjacent tissue; the fluorescein test shows no loss of epithelium and the transparency remains unaltered, except for a very slight and unimportant cloudiness which disappears on

the following day. On a histologic section the following facts will appear; the conjunctival cells of the grafted cornea, subjacent to the epithelium, join themselves to those of the patient; they exhibit normal appearances when stained, although there may be slight differences in the nuclei. If aseptic precautions have been rigorously carried out, there is no leukocyte infiltration.

A disappearance of certain elements of the transplanted tissue will be noticed quite early and this absorption of waste tissue continues for several days. I have found traces of it on the seventh day, but none on the fifteenth. It amounts to about one-fifth of the epithelial fibers of the graft, so that a slight settling or, rather, thinning of the transplanted fragment (whose transparency remains perfect) is produced.

What happens to the epithelium? This is of capital importance, as we know, since Ranvier's time, with what rapidity it is able to reproduce itself. Does the epithelium of the patient cover that of the graft or is the graft sufficiently alive to proliferate and place itself in close juxtaposition to the patient's epithelium?

On eyes examined at the twentieth hour, it is clearly seen that the epithelium of the graft is well in place. The epithelium of the patient has also descended into the linear depression which marks the edges of the cavity (into which the graft has been inserted) and produces there a cellular proliferation which fills up this cavity. Union then takes place without any overlapping.

When the graft is not of good quality the foregoing phenomena are very different. The graft, although it is seen to have lost its epithelium, (examined also at the twentieth hour), seems to be attached to the subjacent tissue. It is, however, swollen and in several places is slightly raised above the surrounding tissues. The conjunctival cells are edematous, their nuclei have become oval and they do not readily take the usual stains. One can, nevertheless, see that efforts have been made by the epithelium of the patient to cover the dead tissue. In one instance, a small epithelial tongue about 0.5 mm. in length was projected but the constant elimination of minute portions of the graft had arrested the process of repair.

When the corneal graft is in a healthy state its epithelium appears of normal thickness the day after the operation. Furthermore, it is possible, after the twentieth hour, to see fairly numerous nuclear divisions in its germinating layer. These, in conformity with what Salzer has stated concerning the normal cornea, seem to me to proceed by one of the two usual methods of division, direct or indirect.

Later on, the superficial cells exfoliate, to be replaced by others that are younger and grow from the interior tissues, because on the seventh day the epithelium is less thick than on the second and fourth days.

On the eighth day the graft is distinctly transparent, and histologic examination shows it to be adherent and to be affected by the same stains as the surrounding tissue. The epithelial layer does not lie above the surrounding parts.

At the end of two months, the histologic characteristics of the graft are the same as those of the surrounding corneal tissues, while its epithelium has a tendency to increase its deepest layer by a row of flat cells.

Macroscopically, the graft is scarcely perceptible; it is necessary to make use of a powerful focal illumination to distinguish the edges of the wound, which are barely indicated by a small, white line. This condition appears to be permanent, for in animals operated on eighteen months ago, a slight irregular astigmatism is the only indication of the place at which the transplantation was made.

DEFERRED KERATOPLASTY OF PRESERVED MATERIAL IN THE HUMAN SUBJECT

Experiments on animals having given me every satisfaction I resolved to attempt it on man. I wished to apply previously solved biologic problems of a general order to the much-disputed question of human keratoplasty.

The opportunity presented itself at the end of May, 1911.

The patient selected was a boy 14 years of age, who consulted me for a large cicatricial pterygium which had appeared several years before as the result of a burn from quicklime. The entire cornea with the exception of a small upper-inner area was quite opaque. Even this small region was faintly nebulous. A colleague had made behind this zone an optical iridectomy; through the resulting coloboma the patient had acquired 1/17 of normal vision.

The indispensable material for the graft which I decided to implant was furnished as follows:

In the beginning of June, 1911, a man suffering from absolute glaucoma presented himself at the Lariboisière Hospital. The sight of one eye had been lost several months before and in spite of two operations the patient still suffered so much pain that enucleation was necessary. The eyeball was extremely hard and the cornea, as a consequence of the extreme hypertension, was opalescent and insensible.

The excised globe was first washed successively in ten tubes containing Locke's solution at room temperature and was finally immersed in a hemolyzed blood-serum taken from a person in whom the Wassermann reaction was negative. This container-tube was sealed and placed in an ice-box at a temperature maintained at 5 C.

The hardness of this eye and the opalescent appearance of its cornea made me fear a failure. On making an examination of the globe after twenty-four hours, however, I found that the cornea was quite clear, probably as a result of the disappearance of the plus tension.

The eye was kept in this state for a week.

At the end of eight days, Dr. Morax and I performed the transplantation.

The pterygium was first of all completely dissected off. Then a rectangle, about 4 mm. in height by 6 mm. in length, was exsected from the center of the opaque cornea. At this stage of the operation we discovered behind the leukoma several blood-vessels from which the blood oozed abundantly and threatened to prevent the coaptation of the graft. By the use of epinephrin, however, this inconvenient hemorrhage was arrested and the operation was successfully terminated. It must be added that the cavity was made as deep as possible without perforating Descemet's membrane and in such a fashion that the edges of the wound were perpendicular and without defects. Finally, a piece of the same size and of the same thickness was cut from the preserved cornea and applied (without suturing) to the prepared surface of the patient's cornea.

The results of this transplantation were as follows: The binocular bandage was removed on the third day when it was seen that the graft was perfectly in place and completely transparent. Fluorescein did not stain at any point. Eight days afterward (the patient no longer having the eye covered), the red reflex was easily seen through the pupil.

At the end of three weeks the dissected pterygium began to reproduce itself. It brought with it numerous capillary blood-vessels, two of which, larger than the rest, encircled the graft and clouded its edges, the center remaining perfectly transparent. At the end of three months this process of vascularization began to decrease, although the pterygium had completely reformed and encircled the edges of the keratoplasty. With the atrophy of the capillary vessels, however, the edges of the graft little by little recovered their transparency.

It is now nearly a year since the operation was performed. The graft persists and is still perfectly clear. This transparency is much greater than that of the small corneal area that remained on the eye of the patient after his accident. The graft has the appearance of a pane of glass or of a small window in an opaque wall.

The irregular astigmatism which inevitably follows any form of keratoplasty has greatly diminished. The visual acuity, through the graft, reached 1/7, that is to say, a degree of vision which is more than sufficient for the patient to find his way about and which permits him to read printed characters of a fairly large type.

I am, consequently, convinced that for the first time a successful transplantation has been done by the aid of corneal tissue preserved for several days in a state of vitality. I believe that I have obtained as good a result as if I had made use of fresh material. Cases of immediate keratoplasty are not numerous (Zirm, Fuchs, Löhlein, Clausen, Fox), and my method encourages the hope that this useful operation will soon be generally employed.

The proof of the vital condition of the preserved and transplanted cornea lies in the fact that although the pterygium returned after removal it grew only to the edges of the graft, whose tissues must have had sufficient vitality to defend themselves.

It must, finally, be noticed that the eye which furnished the graft was in a state of hypertension, the cornea being anesthetized and cloudy. The cloudiness disappeared after being a few hours in the preserving liquid. Eyeballs affected by absolute glaucoma may, therefore, be utilized for this operation.

So far as concerns the technic of the operation, I still believe that partial keratoplasty is the best method and that it is not necessary to make a large opening in the opaque cornea. No suture is necessary; the operation must be performed at the center of the cornea and one need not have the incisions extend into the conjunctiva.

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MODERN OBSTETRICS, WITH RELATION TO THE GENERAL PRACTITIONER, THE STUDENT, THE MIDWIFE AND THE SPECIALIST *

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Recent advances in medical science have so changed the scope of obstetrics that the term "modern" may appropriately be applied to this branch of medicine at present. To the obstetrician belongs the field comprising the physiology and pathology of pregnancy, with the complicated pathologic problems presented by toxemia and the surgical procedures required by placenta prævia and other forms of ectopic gestation. His, too, are labor and its complications with the complex condition known as physiologic incompetence, and the surgical procedures made necessary by deficient development or abnormal expulsive forces.

In the puerperal period the obstetrician is especially engaged with the prevention or treatment of hemorrhage and septic infection, and with that important subject, the repair of injury received during labor, and the restoration of the mother to health through involution. Injuries to the new-born, asphyxia, inspiration pneumonia and infections acquired during labor must receive attention from the obstetrician. In no branch of medicine are more important pathologic conditions present for study, and to no one but the obstetrician is given the responsibility of operating for the saving of two human lives. It is not strange that the slow development of medicine before the advent of asepsis left obstetrics in an imperfect and unsatisfactory condition. The same methods of diagnosis and treatment which have brought modern surgery to its present development are now applied to obstetrics with equal success.

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THE GENERAL PRACTITIONER

No more important question can engage the attention of the profession to-day than the relation borne by the general practitioner of medicine to obstetrics. Many of these cases inevitably come first to him when under conditions most unfavorable. Without previously seeing the patient, and without warning, he may be confronted by the most dangerous complications of parturition. Unaided he must perform difficult operations under the pressure of necessity. In no other branch of medicine is the general practitioner placed at such disadvantage.

General practitioners may be divided into two classes as regards obstetrics. The larger number are those who do obstetric work because thereby they hold the medical practice of the family. A much smaller number have natural surgical instincts, are interested in the pathology and surgery of obstetrics, and do this practice with interest and pleasure. Successful general practitioners have repeatedly told me that they would gladly avoid this branch of medicine, and that the outlay of time and effort was far greater than the remuneration; and that only the necessity for keeping the family practice unbroken led them to take these cases. This applies, however, only to those men who are successful as practitioners of internal medicine and who have no especial ambition in surgery. A considerable number of general practitioners, however, are beginning professional life, but have not as yet achieved success and are dependent for a living on all cases whose management they dare attempt. These men must do obstetrics to live, and yet have no intention or possibility of doing such work well.

Under these circumstances, how can obstetric practice be conducted in such a manner as to do justice to the general practitioner, and how can the general practitioner of medicine do justice to his obstetric patients?

The specialty of the general practitioner should be diagnosis. His opportunities for attaining skill in this branch of medicine are the best. His success as a practitioner is entirely dependent on his diagnostic power, for often he cannot avail himself of laboratory methods and must depend on his powers of observation. The success or failure of the general practitioner as an obstetrician will depend on his ability to diagnosticate conditions which make pregnancy dangerous and threaten difficult or disastrous labor. A thorough knowledge of the signs and symptoms of the toxemia of pregnancy, the ability to diagnosticate contracted pelvis, disproportion between mother and child, and abnormal positions or presentation, should be within his grasp. If to this he adds the antiseptic habit, most difficult to acquire by those not trained as hospital residents, he can successfully meet many of the conditions of obstetric practice. Under these circumstances the conduct of normal labor becomes a matter of no especial difficulty, because a man so equipped will recognize abnormality and secure in such cases the service which he himself may not be able to render.

The multiplication of hospitals throughout the country and the development of obstetrics as a specialty have placed at the disposal of the general practitioner the conditions necessary for the management of complicated cases. When the diagnosis of abnormality has been made, such cases should be referred by the general practitioner to the hospital where especial skill can be procured for their management. A successful general practitioner can better afford to send his complicated obstetric cases to a hospital than to have them do poorly in their own houses. In a case of appendicitis or ovarian

tumor he does his duty to the patient when he makes a diagnosis, afterward confirmed as correct, and puts the patient in the way of securing proper treatment. In a complicated case of parturition the same is true. No successful general practitioner can afford to do that which he cannot do well.

The ambition of every successful practitioner of internal medicine is to limit himself to the field of internal medicine, and under these circumstances such a man attending a family naturally refers obstetric cases to obstetricians.

The general practitioner who is not yet successful, and who must take everything which comes in his way is driven to attempt the management of complicated and dangerous parturition under the most adverse circumstances. A medical reputation can be made among the poor as well as among the rich. It is difficult to persuade him that it is better to lose $10 or $15 by transferring a complicated obstetric case to a hospital than to hold on to the case, although it terminates in the death of the fetus and the prolonged illness of the mother by septic infection. Abundant observation shows, however, that as it would not pay him to retain a case of appendicitis or ovarian tumor with twisted pedicle in the patient's tenement, under his care, so it will not pay him to act in a similar manner with a case of complicated parturition.

Outside of cities one finds within a radius of perhaps 100 or more miles, one or two general practitioners so-called, with a marked taste for surgery and often for obstetrics. These men may have no hospital positions, but from long experience and honest effort have attained ability in the domestic management of complicated labor. They practice asepsis; they have the necessary instruments and appliances, and abundant experience and observation. Such men, although not common, do excellent work in spite of unfavorable surroundings, and in any but the most difficult complications of obstetric practice are competent and successful.

When one considers the fact that the general practitioner is the one person to whom come the acute contagious diseases, we wonder that the parturient woman, so susceptible to infection, should so long have remained under his care.

THE STUDENT

Recent advances in medical science have greatly changed the field of instruction in obstetrics. All properly equipped medical schools now teach biology and embryology in the first two years of a four-year course. Anatomy, general and regional, is so thoroughly covered that the anatomy of the female body is well taught. The physiologist teaches the facts concerning impregnation. The teacher of obstetrics is thus relieved from the necessity of including these branches in his instruction because it is better done by his colleagues. On the other hand, the widened scope of obstetrics in the pathology of pregnancy, and the greatly increased field of modern obstetric surgery give to the obstetric teacher as much as he can possibly cover in the ordinary course. Obstetrics is best appreciated by junior and senior students who have had a good groundwork in anatomy, physiology, biology and embryology, in the first two years.

In common with a number of obstetric teachers in this country, I am accustomed to divide our class at Jefferson into men midwives and obstetricians. Both receive as good instruction as can be given concerning pregnancy and its complications, spontaneous parturition, the low application of forceps, version and extraction, the treatment of post-partum hemorrhage, the prevention and management of septic infection and the immediate closure of ordinary lacerations.

This teaching is reinforced by a thorough drill by competent demonstrators, with the use of charts and manikins, and also by observation on the living patient; especial attention is paid to obstetric diagnosis, and students are warned that this is of primary importance. Major obstetric surgery is taught only in the senior year. The effort is commonly made to place this on the same level as the major operations of general surgery. The class is advised to master thoroughly the groundwork of obstetrics, to obtain hospital experience after graduation in a fifth additional year, and then to take at least several years in general practice. During this time they are advised to study their natural bent and inclination, and also the circumstances under which they are placed. If they have early formed the ambition to do good surgical work, and are also so circumstanced that they have opportunity to learn it practically, and if they have the means to obtain the necessary equipment for asepsis, they are then advised, in common with work in abdominal surgery, to undertake the major obstetric operations. They are urged to connect themselves with the nearest available hospital, or to obtain the privilege of taking complicated cases to hospital. Those, on the other hand, who find themselves drawn more strongly to medicine or to the non-surgical branches of medicine, are advised by no means to undertake the management of complicated parturition. Diagnosis they should and must know, and in recognizing difficulties which they are not competent to overcome they are urged to send their patients to hospital as soon as possible.

In dealing with the complications of parturition which may suddenly confront the general practitioner, two courses of action are placed before the senior student: He is urged, if possible, immediately to transfer the case to a hospital. When this is impossible, he is taught the simplest methods of treatment available in private houses. The comparative mortality and morbidity of complicated cases properly handled in hospital, and those in which the best possible is done under adverse circumstances is placed clearly before him, and the effort is made to show him how great is the advantage of modern obstetric surgery.

While it is too soon to judge extensively of the result of such teaching, I have been gratified to know that some of our comparatively recent graduates developing in surgery have successfully performed the major operations of obstetric surgery.

A most important element in the development of the obstetric surgeon is hospital experience. In 1910 the obstetric teachers of the leading American colleges met and agreed on a concerted effort to improve clinical teaching. It seemed to us at that time that each student should at least have conducted six cases of parturition before graduation. While this may be taken as a minimum, our constant effort is to urge men who find themselves fond of obstetric work to take as much clinical experience as possible. Opportunities are given to the students of the Jefferson Medical College to do additional clinical work during vacation time, and they are urged to take special courses in the various obstetric hospitals of the country. A number of them go to the New York Lying-In Charity, where, I am glad to say, their record is a good one. These are the men who afterward should develop into competent obstetricians.

I believe that polyclinic teaching in all branches of operative work may have advantages, but that it also has a distinct disadvantage. Men ambitious to operate see

difficult operations performed with accuracy and apparent ease by experienced operators. After a brief course of study they return to their homes and attempt the same procedures — not always successfully. In postgraduate teaching as in undergraduate teaching, I believe that the best service which the postgraduate school can render the general practitioner is to give him opportunities for improving his ability in diagnosis. If a man wishes to become proficient in any branch of operative work, he must learn this as an assistant to a good operator, and not in the brief period of a course in which operations are demonstrated, but in which he has comparatively little actual part.

I am well aware that the trend of this method of obstetric teaching will be to produce a comparatively small number of competent obstetricians, and I hope that such will be the result. Obstetrics, like other branches of surgery, is difficult and arduous, and a comparatively small number of medical graduates have the ability, the patience and the endurance to do it well. I believe in the interests of humanity that it would be better to have a small number of good men than a large number of indifferently prepared men doing this work.

In out-patient medical teaching the superstition has long prevailed that the best way to teach a student obstetrics is to send him without instruction, and formerly without instruments or apparatus, to meet the accidents and emergencies of labor. This curious fallacy existed in no other branch of medical teaching. At present, out-patient obstetric teaching is conducted in the best colleges by instructors, and often with the assistance of trained nurses, as well as in the houses of the poor. A man does not learn best by making mistakes, but by avoiding them, and the antiseptic habit cannot be gained by seeing it practiced in hospital and neglecting it in out-patient service. Much useful material for teaching has been wasted by the mistaken notion that out-patient obstetric service should be conducted in a careless and slipshod manner.

THE MIDWIFE

Of late considerable attention has been devoted to the question of midwives, their training, supervision and function in America.

To understand this condition clearly, one must recall the conditions under which the European midwife exists. She is trained in hospital schools maintained by the government, and is taught under regulations prepared by the best authorities in her country and by some of its most competent teachers. She is strictly limited and licensed by government regulations, and these regulations apply equally in all parts of her country, and are void in any other country. Her license is immediately revoked if she does not obey the regulations. Under no circumstances is she allowed to interfere with labor or to attempt the repair of lacerations. There is throughout her country one uniform method of medical control.

In contrast to this in the United States but little instruction is given to midwives. Their licenses are municipal and are used in the careless manner in which much of our municipal work is done. They are under no direct supervision and soon learn to evade the lax regulations under which they practice. It is my belief that they are a menace to the health of the community, an unnecessary evil, and a nuisance. It is true that they furnish interesting pathologic cases, but this is no excuse for their existence.

If midwives are to practice properly in the United States they must be under national supervision, so that a uniform system of regulation and education may prevail throughout the entire country. They should be educated as carefully, and watched as strictly as in Europe, and none but licenses from the best European schools should be recognized by our government. Without a national board of health, and a secretary of hygiene, this is impossible.

In our great cities the plea is often raised that the midwife greatly helps the family of the poor by caring for other children and acting as housekeeper as well as nurse. Few do this and those who attempt it do not always do it wisely or well. The visiting obstetric nurse and the sociologic worker in our large cities do the work of the midwife far better. The maternity department of the Jefferson Hospital employs two visiting nurses for its out-patient work, with most gratifying results. Senior students under instructors are safer persons to deliver normal cases than are midwives, and complicated cases are brought to hospital.

It may be said that in small villages and towns and in the country the midwife would prove a great help; but again we can obtain no competent midwives without proper education and regulation, and the absence from medical supervision, the infrequent visits of the doctor in sparsely settled districts make the midwife doubly dangerous.

A recent interesting paper by Baker[1] sets forth the present status of the midwife in the United States in a most clear and interesting manner, but this able presentation of the subject does not alter my belief in this matter.

THE OBSTETRIC SPECIALIST

Obstetrics shares with other branches of medicine in the development of the obstetric specialist. The tendency to specialism is so strong in medicine that the general practitioner may well ask, "What is left for me?" and many cling to obstetric practice as the last resort. The general practitioner of medicine must deal with contagious diseases, with the great infectious disorders like typhoid and pneumonia, and must, as we have already remarked, be especially proficient in diagnosis. A thorough knowledge of preventive medicine is urgently needed in his case. His diagnostic ability must include obstetrics.

There have always been among general practitioners men operating from time to time, of such native wisdom and insight that they have, unaided, grasped the great principles, and alone performed deeds of actual valor. The early history of cesarean section affords examples of this, but these men are exceptions to the rule; and if the surgeon to-day is a specialist, so must the obstetrician be to obtain the greatest success.

Williams,[2] in his recent interesting paper, has drawn attention to the imperfect obstetric education in America to-day, and especially to the inability of many obstetric teachers. I agree with him in his conclusions and in the accuracy of his observations. When one considers what is embraced in modern obstetrics, the large and interesting field of the pathology of pregnancy, and the necessity for thorough knowledge, skill and experience in obstetric surgery, one can see that this field can be adequately covered by no one who does not give to it a thorough preliminary education and his undivided strength and attention.

A substantial reduction in the mortality of parturient women from puerperal septic infection will not take place in general practice until complicated parturition

1. Baker: Am. Jour. Obst., February, 1912.
2. Williams: THE JOURNAL A. M. A., Jan. 6, 1912, p. 1.

receives the same special attention now given to appendicitis and abdominal tumors. The septic mortality rate of puerperal hospitals under the care of obstetricians has been reduced to less than 1 per cent., but the septic mortality of general practice has never been accurately obtained, and never can be.

Among the advances in the saving of life and health due to the work of obstetric specialists, we may instance the treatment of contracted pelvis, which has ceased to be a source of great mortality and morbidity, and is a complication which now gives the operator little anxiety. The treatment of ectopic gestation by abdominal section has acquired a new meaning, when we remember that we have ectopic gestation outside the uterus and ectopic gestation in placenta prævia outside the usual zone of ovular attachment, but within the uterus. The application of surgical principles to both these conditions is a distinct advance. The enlargement of the field of cesarean section to cover cases of physiologic incompetence for labor, and cesarean section without waiting for labor, are distinct advances. While these seem radical measures and indicate an increased tendency to operation, we may point, on the other hand, to the treatment of puerperal septic infection by obstetricians, which now rarely calls for surgical operation. We have learned that here is a field for wise conservatism and application of a recent discovery in pathology — the use of vaccines. Rupture of the uterus and accidental separation of the placenta receiving surgical treatment show improved results. The repair of lacerations by the obstetrician has greatly lessened the field of secondary operation. An obstetric surgeon must be competent to deal with the results of parturition at any period in the life of the individual. The surgery of the new-born in the treatment of depressed fracture of the cranium shows a notable advancement.

As the population of this country increases, and the struggle for existence grows more difficult, the burden of life will fall more heavily on those who earn the smallest wage and on the very poor. Most helpless of all these is the parturient woman. Unfortunately in the past she has often had little or no skilled attention. Has not this been wrong and can it not be made better?

Too often, among the rich, conditions have been overlooked or recognized too late which brought about a tragedy during parturition. The life of the child has been lost which might have been preserved and whose continuation might have meant great happiness, and even the success of a family. Why should such patients demand the best skill for other complicated situations and be satisfied with less because labor is supposed to be a physiologic process? There is nothing so dangerous as a half-truth, and the statement that labor is a physiologic process has done more to retard the development of obstetrics than any other one thing. Labor is a physiologic process in physiologic individuals, but not in pathologic specimens. On the one hand, poverty and vice weaken and depress the poor, stunt the skeleton, and sap nervous and muscular energy. On the other hand, luxury, dissipation and degeneration, with the results of excessive development of the nervous system, enfeeble the rich, and in both of these parturition becomes from start to finish a pathologic process. Much is often paid for the successful removal of abdominal tumors of an undesirable nature. Is not the successful removal of a living child in sound condition of equal importance?

I remember distinctly the great disadvantage in which I found myself in my first efforts at obstetric practice before I had acquired special education and surgical training. I realize fully the very unfavorable and unjust position in which the general practitioner is placed in attempting, without sufficient assistance and favorable surroundings, to deal with the dangerous complications of obstetric practice. It is my hope and purpose not only to secure better care for parturient women, but to place the general practitioner in a proper and just position amid his professional brethren and before the public.

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READING A BOOK-PAGE INSTANTANEOUSLY: A CASE OF UNIQUE VISUAL POWER

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Mr. C. had the power of reading a page of an ordinary book, duodecimo or octavo at a glance. His eyes and attention were fixed on the page for but a second or two, and it was read, its statements or contents so fixed in memory that they could be brought forth from that "vasty deep" whenever in after-years desired. Page after page was thus read; and book after book, year following year. Several volumes might thus be gleaned in an evening. It scarcely needs the saying that it was necessary that the book should be "easy reading," its English of good style, the subject treated not essentially unfamiliar, recondite, or philosophic, but within the easy grasp of the man's intellect, such as well-written novels, narrative, history, essays, poetry, the magazines, etc. In reading poetry, of which he was extremely fond, he could by a glance store his memory with the line or stanza of a page or poem which to his critical judgment stood out with superior excellence.

This ability began to show itself in late midlife, growing more and more perfect in his later years. It was often put to the test by his assistants or secretaries, and more frequently he vainly tried to prove that they possessed the same celerity of reading as himself. Not one could even remotely rival him. In directing such tests by others he persistently urged that they could carry them out as speedily and correctly as himself, if they followed his own rule and habit, namely, fixing the gaze and attention on the center of the page, thus causing at once the entire page to swim into view, to be perceived and to be photographed in memory. He was scornful of the ordinary fashion of reading line after line, or sentence after sentence. Of course none ever succeeded in reading as did he, and he could not understand it; he was even vexed by it, and bluntly said that their inability was due to mental causes or lack of exercise. He never dreamed that his ability in the act of reading so rapidly sprang from a strange peculiarity of disease in his own eyes.

Every student of vision knows that, as a general fact, it is optically impossible for the two normal and immobile eyes to look intently on a small object such as a word or two in the center of a page, and, at the identical instant, see and understand all the sentences at the limits of the page above, below, etc. The structure of the human retina and the history of its function absolutely forbid that. The "field of vision," it is true, may be thus mapped, and its widest boundaries localized by means of the mere existence of illuminated objects placed at the periphery, i. e., by the perimeter—but that is not intellectual vision, and memory is not called in.

Mr. C. was a man of exceptional learning, his mind being highly trained in literary criticism and creation. It was because of his marvelous celerity in acquiring knowledge that he seemed to his associates to do far less reading than men of vastly inferior erudition. His memory was almost faultless, and he was famous for his unerring judgments and epitomes of literary history and productions, all drawn from his own personal reading and research; and, if desired, or desirable, illustrated, also, by accurate quotations.

Optically considered, it all appeared primarily to be the result of a marvelous, even an impossible, perfection of the visual mechanism, united, of course, to a mental outfitting of exquisite sensitiveness, infallible memory and extraordinary intellect. No question may be raised as to these last-named endowments of his mind, but pertaining to the very large and primary part played by the eyes themselves, the phenomenon was based solely on a pathologic lesion—it was due to disease. It was, in truth, a rare but not the first instance of physiologic function perfected through Life's splendid ingenuity and repair, even re-creation, out of the mangled left-overs of morbidity and disorganization.

There have been many reported instances of clairvoyant knowledge—flawless reading, for instance, of any closed book chosen. The case in question was not of this sort. But it is rationally and scientifically explainable when all the facts are known and intelligently studied.

The strictly normal but extremely high and perfect mental functions of the man being given as prerequisites of his power of seeing and memorizing the printed page, there is still necessary a fundamental, and seemingly unique peculiarity of the merely ocular act. Without it there is no scientific explanation of the completed result. Accurate knowledge of the physiology of binocular or two-eyed vision, and an intimate understanding of the peculiar ocular disease of this man are required to solve the mystery.

He was right-handed, and therefore in early life he was, of course, right-eyed. (Right-eyedness is the cause of right-handedness.) Sometime during the middle years of his life the central part of the retina, the "macular" region of the right eye, was destroyed by an inflammation (chorioiditis), caused by eye-strain. The "fixing" part of the retina was obliterated, leaving there a blind, black, round, disorganized, pigmented space or hole. The left eye was not diseased and continued the usual perfection of macular or central vision. By long, unconscious and forced exercise, the healthy zone of the normal right retina surrounding the macula was educated to such a degree and so widely that it could, when unmoved, receive and transmit to the brain the image of the entire page, except that part falling on the central portion which had been destroyed. This was naturally supplied in perfection by the macula of the left eye. If, like two cups or saucers, one retina were placed within the concavity of the other, the "identical points" superposed, it would be seen that the size of the normal zone of retinal macular or central fixation of the sound left eye would exactly cover and complete the pattern, and act for that space destroyed by disease in the right eye. The right eye could not fix on and see the center of the field or object; it could only be held on this unseen point by the left eye, could only stare at it, if one may so speak. The cerebral visual center thus received the entire photograph of the object seen, made complete by the complementing interaction and unitizing function of the two eyes.

That the visual axis of the left eye acted on a healthy macula, and "fixed" the usual extent of the picture there, supplementing the coextensive blindness of the right eye, is thus explained; and one understands how, with both eyes, there was no failure or imperfection of the photograph. There remains the lesser mystery of a large extension of the sensitive and reacting retina of the right eye toward its borders or periphery.

This is more readily explained. In the common eye of mankind the accuracy and perfection of imaging in the more outlying retinal regions lessens with every degree traveled toward the periphery. But some relative accuracy is retained in all parts, and this, beyond doubt, is capable of increased education. It is a well-known fact that the creation, functionally, of a new macula frequently takes place at some distance away, when the original macula has been destroyed. Some birds have two normal maculas. In the present peculiar case the striving after a new macula would be, and certainly was, replaced by exceptional sensitizing, enlarging and educating of the greater zone surrounding the lost macula. This trend or necessity was aided by the fact that being originally right-eyed, this man's right eye, after the loss of its central vision, held, in part at least, to its natural right and habit of dominancy; and thus, while its axis of vision remained immobile, there came an increased and widened power of synchronous response to the picture-stimulus in the more outlying zones. Neurology readily understands and explains how the cerebral centers of vision united the two fields, unmarred, into one sensational photograph. The extremely sensitive and highly endowed brain thus seized on the disadvantages of disease and turned them into a superbly valuable excellence. This anomalous acquirement of synchronous large-space reading was a great aid to the man as student and master of literature.

It may be added that a normal pair of eyes, without any lateral motion, is able to read printed lines at 15 inches distance, only when such lines are from about ½ to 1 inch long. To extend this length of line to 3 or 4 inches, as in the present case, and synchronously to visualize intelligently thirty or forty lines, is beyond question impossible for the normal visual mechanism. But to such eyes as those of Mr. C. it would not only be possible, but, well considered, natural. That the extramacular zones of the eyes are capable of increased and heightened susceptibility and education is well illustrated by the fact that a child learning to read can fix on only one letter at a time; by and by he acquires the ability to take in a word; then, later, several words, and in adult life, perhaps a sentence. But there is then more than a suspicion of some unperceived lateral motion of the axes of vision. Narrow columns, and white instead of black letters, would surely add to this larger oversight. But all such acquirement differs in fundamental mechanics—or neurology—from that of Mr. C.

It appears clear to me that so long as the two eyes retain the habitual functions of the two normal macular regions there can never be such a marvelous extension of synchronous and perfect peripheral vision as was illustrated in Mr. C.'s case. That is possible only when one macula is destroyed, with retention of the perfect peripheral portions.

The Hysterical Symptom.—Just as soon as the hysterical symptom attracts no attention, elicits no sympathy . . . it dies for want of nourishment, and a real, basic and indisputably lasting cure is obtained. Caused and nourished by suggestion, it perishes for lack of it.—Eugene Bondurant in *Medical Record.*

FACTORS OF SAFETY IN OPERATING FOR EXOPHTHALMIC GOITER

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The remarkable progress which has been made during the past twenty years in the surgical treatment of Graves' disease is worthy of comment. This progress is due to a greatly increased knowledge of the disease, and has resulted in a reduction of the mortality, in a greater number of cures, or in greatly lessened disability.

In the early nineties the disease was considered from a purely medical point of view, and very often patients were nearly moribund before surgical aid was given. It has been shown, however, that the disease is chronic and that there are conditions and periods of activity peculiar to it which should be treated medically in preparation for an operation later, unless the improvement be continuous and the recovery complete.

DIAGNOSIS

Because of the severe symptoms which present themselves the majority of cases of exophthalmic goiter can be readily diagnosed as such, but there may be a small number in which the diagnosis is made with difficulty. Most cases in which there is doubt are, in all probability, not true cases of Graves' disease, the symptoms being due to myocarditis, certain forms of nephritis and some obscure nervous manifestations, the causes of which are, as yet, unknown.

Kocher believes that cases of Graves' disease which are difficult to diagnose should be accepted as such only if they show the blood-changes commonly found in acute or active Graves' disease. From an observation of several hundred cases of exophthalmic goiter, Plummer has shown that the disease runs a fairly regular course.

If the average course of the disease be represented by a curve, the greatest height of the intoxication is found to be reached during the latter half of the first year and then rapidly drops to the twelfth month. In many instances it reaches the normal base-line during the next six months, more often it fluctuates with periods of exacerbation for the next two to four years. Secondary symptoms and exophthalmos may remain, but the active course rarely continues over four years without distinct intermissions. The ascent may be gradual, sudden, or irregularly marked by many secondary curves.

There is usually more dilatation of the heart and the symptoms are more acute in the first period; they assume a chronic type in the second. It is well known, however, that a few cases run their course to death within a few weeks, while others have only the most temporary remission, growing progressively worse for a few years, ending in death as a rule. It must be recognized, also, that cases of single or multiple adenomata of the thyroid may undergo a degeneration which acts on the system somewhat like the acute toxemia of hyperthyroidism, causing dilatation of the heart, nephritis and general anasarca. Nervousness, tremor and tachycardia may be present. Protrusion of the eyes does not occur in these cases, but the myocardial change may cause a widening of the palpebral fissure, or Dalrymple's sign. These cases, often called Graves' disease, should be classed as complicated simple goiter, the mortality of operation being fully equal to that of operations in the active and severe types of Graves' disease.

The mortality from operations performed during this early period by surgeons of considerable experience was from 20 to 30 per cent. Our mortality (W. J. and C. H. Mayo) in the first sixteen cases was 25 per cent. Many of these patients were suffering from advanced myocardial changes, degeneration of the liver and kidneys, so that cure was out of the question, and checking the toxemia with relief of symptoms was all that could be hoped for. The relief of those who survived the operation, however, was so immediate and remarkable that the new patients were often advised to operation by the old. The high mortality, which should and would have been medical with a little more delay, was shifted on to the surgical side, and, like a vicious circle, the higher the mortality the greater the delay, and *vice versa*.

It was not until the beginning of the present century that the experience gained by the early workers in this field bore fruit. The disease became rather generally considered as surgical even by some physicians with a large experience in the medical treatment of simple goiters.

That factors of safety are gradually becoming recognized is proved by the present mortality following surgical operations, which is a varying one, from 1 to 4 per cent. The estimated proportion of cures, based on the examination of patients operated on and from letters and reports, is about 75 per cent. These patients have been restored to usefulness, resuming former occupations, and are free from nearly all former symptoms. Some of the patients with extreme and long-continued exophthalmos may still show symptoms of this condition, but which cause no discomfort; others may occasionally have tachycardia, and a few may have an occasional relapse of the general nervousness. It must be admitted, too, that, if there be an increase in the size of the remaining portion of the gland, a small number of patients will have a partial relapse of all symptoms after being practically well for a long period of time. Should a patient under medical treatment relapse after a period of improvement, the treatment is renewed. Should there be a relapse after surgical treatment, because of too little gland removed, or an increase of the remaining portion, it does not indicate a failure in the surgical principle, but calls for further operation.

Within the past year we have operated, between deaths, on a consecutive series of 278 cases of exophthalmic goiter, without a death. This is a decidedly marked gain over our early work, and I believe it has been caused by taking advantage of the so-called "factors of safety" in the treatment, preparation and operation of these patients.

1. As regards operating during periods of exacerbation or excessive activity of the disease: The mortality in these cases is frequently high, and it is such we would choose for medical treatment, i. e., rest, *x*-ray, etc., with attention to the heart, stomach and intestines according to the indications presented by the individual case, until the exacerbation of symptoms subsides.

2. Gastric crises and acute delirium are serious manifestations and operation should not be done until the conditions have subsided; the cases, until then, remain medical.

3. Dilatation of the heart which exceeds 1 inch is a serious condition, while that of an inch and a half will give a percentage of unavoidable mortality for the radical operation of thyroidectomy. The line of treatment is, therefore, indicated.

4. Ligation as a method of surgical treatment was practiced in the early part of the last century and again recommended by Wolfler and others in the latter part of the same century. The method now has an accredited

position in the treatment of exophthalmic goiter. Patients seen in the early stages are sometimes wonderfully improved by the simple operation of double ligation. These cases are, however, comparatively few in number, and, since it is this type which may possibly abort, it is difficult to say that the improvement in all cases necessarily comes from the operation.

5. Serious risks are treated by a single ligation of the vessels at the upper left pole. The reaction is about three-fourths as severe as from a double ligation, but the missing one-fourth is an element of safety. If the reaction be very severe, a second ligation of the right upper pole is made a week later. As compared with the first ligation, the reaction following this one is slight. If the reaction be not severe, at the second operation the right lobe, isthmus and possibly a portion of the left lobe is removed. In some cases of extreme emaciation, yet with a temporary fair or improved condition, a double ligation is made at the one operation. In several hundred patients the average gain in those who were below weight at the time of ligation was 22 pounds within four months. At this time a thyroidectomy of one-half or three-fourths of the gland can be made with small risk.

Ligation of vessels should be made close to, or should include some of, the pole itself, so that a reversal of circulation in anastomotic branches with the inferior artery may not occur. Thyroidectomy of three-fifths or more of the gland is indicated in most of the chronic cases in which dilatation of the heart does not exceed one inch and there are not complications — ascites or mental changes.

The small percentage of patients with exophthalmic goiter who relapse in from one to several years after partial thyroidectomy, with an increase in the size of the remaining lobe, should have the benefit of further surgical aid. Unless medical treatment be rapidly beneficial in such cases, the primary procedure should be ligation of the vessels at the superior pole, leaving only the inferior artery and the lateral and inferior veins. Should this operation not restore these individuals to their former improved condition, a part of the gland can be excised at a later period with but little risk.

Ether, preceded by atropin and morphin, is the anesthetic of choice for double ligations and thyroidectomy. If there be extreme nervousness, scopolamin is used, and the worst type of cases with affections of the heart and kidneys are operated by local anesthesia or receive the benefit of Crile's anocia preparation — injecting local anesthesia into the field of operation in addition to the other preparations before ether is administered.

Ligations, both single and double, in the worst types of Graves' disease have been followed by a mortality which has fully equaled or exceeded the mortality of thyroidectomy. In the 278 operations there were 105 single and thirteen double ligations.

EXOPHTHALMIC GOITER

Single ligation	105
Double ligation	13
Single ligation followed by thyroidectomy	30
Two single ligations followed by thyroidectomy	21
Double ligation followed by thyroidectomy	26
Thyroidectomy	78
Thyroidectomy followed by ligation	4
Thyroidectomy followed by ligation followed by thyroidectomy	1
Total	278

SOME OBSERVATIONS ON CATHARSIS

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Observations on the movements of the gastro-intestinal contents by means of bismuth and *x*-ray were begun by Cannon about ten years ago.[1] For some unaccountable reason the subject did not receive the attention it deserved until several years later. Among important recent publications on the subject is that of Satterlee and Lewald,[2] who last year recorded the results of their observations on the passage of food from the stomach through the small and large intestine. Many other roentgenographers have verified their findings.[3, 4, 5, 6]

In a normal individual the liquid stomach-contents begin to pass at once into the duodenum. The rate of outflow is governed by the pylorus, which relaxes and allows the gastric contents to pass through as fast as they are neutralized in the duodenum, but no faster.[7, 8] Through the small intestine there is a steady forward flow toward the cecum. If a pint of bismuth soup be swallowed it takes ordinarily about six hours for all of it to pass into the cecum. But here rapid progress stops. In the cecum the mass remains for from twelve to twenty-four hours, or even longer, before there is much sign of passing on through the transverse colon. During the stay in the cecum and proximal part of the colon the mass becomes smaller and more dense from the absorption of water.

Peristalsis in the jejunum and ileum is continuous as long as there is anything solid touching and stimulating the mucous membrane. The peristaltic waves are short, worm-like and follow closely one after the other. The "rhythmic segmentation," described by Cannon,[8] is a feature of intestinal digestion and absorption, and not a part of the propulsive force. In the large bowel, on the other hand, peristaltic movement is intermittent and powerful, and may involve a long segment at one time. In the transverse colon the contractions begin with a few short to-and-fro cradle-like movements,[6, 9] which are probably caused by the longitudinal muscle-bands and are assumed to serve for mixing and lubricating purposes. These side to side movements are immediately followed by a series of ring-like contractions on which the fecal mass may pass rapidly over the splenic flexure and to the sigmoid. After such a functional effort the colon may rest for many hours before its next cycle of peristalsis begins.[4] Reflex stimulation below the sigmoid causes evacuation.

A so-called antiperistalsis has been noted in the transverse colon,[6, 9] the peristaltic waves passing for a few moments from left to right. Bloch,[3] who claims to have been the first to demonstrate it in the human, thinks it is of rare occurrence, but cannot say whether it is a physiologic or a pathologic phenomenon. Short, on the other hand, thinks antiperistalsis the rule in the first half of the colon.[10]

The complicated physiology of digestion and absorption is as yet far from final solution and comprehension. In the upper part of the digestive tract physiologic

1. Cannon: Am. Jour. Physiol., 1902, vi, No. 5.
2. Satterlee and Lewald: THE JOURNAL A. M. A., Oct. 14, 1911, p. 1255.
3. Bloch: Fortschr. a. d. Geb. d. Roentgenstrahlen, 1911, xvii, 121.
4. Holzknecht: München. med. Wchnschr., 1909, No. 47.
5. Fischl: München. med. Wchnschr., 1911, No. 36.
6. Schwarz: München. med. Wchnschr., 1911, No. 39.
7. Abderhalden: Physiol. Chemie.
8. Cannon: The Mechanical Factors of Digestion.
9. Bergmann and Lentz: Deutsch. med. Wchnschr., 1911, No. 31.
10. Short: The New Physiology in Surgical and General Practice.

chemistry explains more or less successfully the processes involved in digestion. But the exact manner in which the intestinal mucous-membrane cell takes up many of the products of digestion from the intestine and passes them into the circulation is not well determined.[11, 12] The mucous membrane seems to be a most wonderfully appointed living chemical laboratory. Some of its cells are capable of producing ferments which subdivide and chemically prepare food-substances so that other cells may absorb them, reunite elements and form new chemical compounds which pass on into the capillaries and lymphatics. The small intestine also produces a ferment which destroys bacteria, as shown by Fleiner.[13]

In the ileocecal region a most varied bacterial flora complicates still further these physiologic problems. The activity of these bacteria on the various food-elements, on the digestive ferments, on the cells of the mucous membranes and on the bacteria themselves is far from being fully understood. In the cecum certain varieties destroy the digestive ferments, thereby ending digestion, while others cause fermentation and putrefaction of unabsorbed products of carbohydrate and proteid foods, respectively.[14] Still other bacteria seem to have a mission of regulating the number and life-history of the former varieties. The *Bacillus coli communis* group probably belongs to this class. After the fluids have been absorbed from the bowel-contents in the colon and the fecal masses are hardened, the bacteria are found to be mostly dead. Dead bacteria make up one-third of the volume of hard feces.[15]

The interrelationship between the various bacterial groups, and between them and the food-products and the physiologic elements of the intestine must be at a certain equilibrium.[14] This interdependence between the elements involved may be quite individual. The life-history of the majority of these bacteria is short, lasting but a few hours. Before meals the small intestine is nearly if not quite sterile and in the large bowel the bacteria are dying off rapidly, owing to autotoxic activity. After a full meal the bacteria again proliferate with astonishing rapidity throughout the intestinal tract. When generations follow one another in such rapidity, evolutionary changes may be possible within the space of a few months or years. It is reasonable, therefore, to think that each individual may have his own peculiarly developed type of a given bacterium (*Bacillus coli communis*, for instance), which in the course of time and development has become necessary in this particular intestine to balance and check up the activity of the other bacteria and ferments. According to Kendall,[14] the greatest interdependence among fecal bacteria exists between the fermentative and the putrefactive types — the former decomposing the carbohydrates and the latter the proteids. A marked disturbance of their relative activities will cause excessive gas formation and perhaps diarrhea, the symptoms of so-called "intestinal fermentation."

An individual who eats habitually a varied diet, who secretes normal gastric, pancreatic and intestinal juices, who has a properly functionating neuromuscular apparatus for peristalsis, and who has an evenly balanced colonic bacterial flora—such an individual enjoys intestinal comfort. Whenever any one of these factors is deficient or excessive in its activity, the intestinal balance is upset and the individual suffers discomfort and symptoms in proportion to the derangement.[13]

We are apt to think of the function of peristalsis as being limited to the propulsion of intestinal contents. It is easily conceived, however, that the successive contractions and relaxations of the intestines also cause alternately an ischemia and a hyperemia of the intestinal wall. These circulatory changes aid absorption from the mucosa and cause a more rapid dissemination of absorbed substances into blood-vessels and lymphatics.[16]

From this fact we should deduce a lesson in pathology. If pathologic products exist in or about the intestine, increased peristalsis may cause an increased toxemia. Increased peristalsis also means a mechanical spreading of infection on the peritoneum and a delay in the formation of protective adhesions.

In acute inflammations within the abdomen, Nature's first effort is to subdue peristalsis about the region of infection.[17] Her next effort is to confine the infection within the smallest possible area by means of peritoneal adhesions.

Here we find another lesson. This is one in therapy and reads plainly as follows: In acute intra-abdominal infections do nothing to increase peristalsis.[18]

When we desire to evacuate the bowel rapidly it is a time-worn custom to give a saline purgative. In the small intestine a concentrated saline solution causes a profuse transudation of fluids into the intestine. The colon loses its absorptive power from the presence of the salt and its contents are expelled in liquid form. Peristalsis is increased most markedly in the large bowel. This transudative effect on the mucosa of the small intestine interferes with the formation of ferments. The zymogen-carrying cells become depleted of the necessary fluid. But the greatest factor in this derangement of intestinal balance is, perhaps, the destruction of the bactericidal principle.[13] The food therefore passes into the cecum unabsorbed and in a state of but partial digestion. The fermentative and putrefactive bacteria find the best possible conditions for their existence and proliferation. That they improve their opportunity is shown not only by the fact that the diarrheal stool is teeming with living bacteria, but also by the gas distention of the colon experienced by most individuals as an after-effect of a dose of salts.

It may seem almost a sacrilege, but we cannot except even calomel from our criticism of salines in general. Calomel was formerly thought to be both a biliary stimulant and an efficient intestinal antiseptic. Schütz[19] has shown it to be neither, but quite the contrary. According to this and other authorities,[13, 20] the action of calomel on the intestinal mucosa is harmful and in favor of bacterial growth.

When a cathartic is necessary, oil is probably the least harmful to the intestinal mucosa. Oil does not destroy the disinfecting property of the succus entericus and it forms a good lubricant for the colon. Oil surrounds and impregnates the food particles. This retards bacterial activity, and thereby reduces gas formation.

A high rectal enema reaches and flushes the whole length of the colon. This can be proved to any doubter by giving it to a patient while the abdomen is opened so that the large bowel can be seen. A salt solution, stronger than normal saline, or practically any other

11. Howell: Text-Book of Physiology.
12. Hammersten: Lehrbuch. d. Physiol. Chemie.
13. Fleiner: Jahresb. f. Aerztl. Fortbild., 1911, No. 3.
14. Kendall: Jour. Med. Research, 1912, xxv, 117.
15. Strasburger: Ztschr. f. klin. Med., 1902, xlvi, 415.
16. Mall: Johns Hopkins Hosp. Rep., 1896, No. 1.
17. Strümpell: Pathologie und Therapie.
18. Ochsner and Percy: A New Clinical Surgery.
19. Schütz: Arch. f. Verdauungskrankh., vii.
20. Nickels: Reference Handbook Medical Science.

irritant in an enema reaching beyond the splenic flexure will often cause immediate evacuation. Cannon observed increased peristalsis even in the ileum as a result of the stimulus from an enema of soapsuds.[8] Should the enema fail, an irrigation of the colon is possible.

An internal secretion which stimulates peristalsis has been obtained from the gastric mucosa and from the spleen. The experiments of Dohrn, Marxer and Zuelzer[21, 22] showed that this is a constant hormone in animal organisms regulating the function of peristalsis. Therapeutically it has been used to some extent, but will need further experimentation and use before definite indications for its employment can be established. When this is done it promises to become a physiologically ideal intestinal evacuant.

After this brief review over several facts concerned in the functions of the bowels, and over the action of some of the common cathartics, let us see what clinical observation teaches in regard to the use and non-use of cathartics, especially in certain surgical conditions.

I have searched my clinical records and experiences with respect to this question and found that the patients with acute appendicitis whom I have seen die from local extension of the disease, or from general sepsis, either with or without surgical intervention, had without an exception received and retained some active cathartic at the beginning of the disease. The patients with diseases of similar nature who have barely escaped death, but who have developed the worst postoperative complications, advancing peritonitis, bowel paresis, distention, fecal fistulas and miserere, had nearly all been given a dose of salts as a passport to prolonged suffering, tedious and expensive stay in the hospital, and finally months or years of reduced vitality and usefulness. On the other hand, the cases of acute intra-abdominal inflammation which had an equally stormy onset and which apparently promised fully as grave complications as those already mentioned, but into which the element of purgation had not entered — in these cases the patients had in comparison a surprisingly easy and quick recovery.

Descriptions in detail of illustrative cases as well as a classification of all such patients would be of interest, but time-limit forbids. I feel, however, that my experience along this line has been great enough to warrant the greatest possible attention to the facts stated. The country practitioner has here a grave responsibility. Beyond his duty to each individual patient, he should be a missionary among the uninformed. It has become a custom whenever a patient with acute appendicitis or other acute inflammation about the movable viscera is brought to me, to inquire at once: "Have you taken a physic?" If this question is answered in the affirmative, the next question is whether the stomach resented the insult with free emesis, or whether the cathartic were retained to perform its malicious work. This knowledge is of importance in prognosis. Sad experience has been my teacher.

About two years ago my attention was drawn to the fact that most patients who were subjected to abdominal operations immediately on their admittance to the hospital, on account of strangulated hernia, acute appendicitis or other abdominal emergency, recovered with but slight discomfort from gas distention. During the same time other patients who had been deliberately prepared for operation and who had received fully as careful and delicate handling of peritoneum and viscera as the former patients, suffered relatively much more from meteorism and pain and had a more serious time in getting the bowels opened after the operation, than had the emergency cases. The relation between operative trauma and postoperative gas pain was decidedly in favor of the "unprepared cases."

A closer study about these circumstances led me to believe that this difference in results must have its cause in some step in the preparation of the patient before the operation. That the operative technic was a radical factor could not be assumed, for several reasons. In a strangulated hernia, for instance, the intestine would be handled and rubbed with fingers, gauze and instruments, and perhaps resected, and yet the intestinal contents would not be materially hindered in their transit. Comparatively little gas would be formed in the bowel. In immediate operations for acute appendicitis, the peritoneum would be opened freely, gauze pads would be laid over omentum and numerous loops of intestine and held firmly against the peritoneum by intra-abdominal pressure. Many such patients recovered with a surprisingly small amount of meteorism. On the other hand, an interval appendectomy, a gall-bladder incision, a pelvic operation would at times be followed by two or three days of distention and distress before the bowel could be induced to functionate properly. And this would sometimes happen after the most painstaking preparation of the patient, including a liberal use of cathartics a day or two before the operation with the erroneous idea that this would remove all gas-producing materials.

It was evident that the greatest difference in the preparation of the two classes of patients lay in the non-administration of carthartics in the emergency cases. I concluded therefore to leave out, by way of experiment, this feature of the preliminaries in ordinary laparotomies. This was done tentatively at first, but as experience made me bolder and more confident I discontinued all use of purgatives before operations, except in rare instances and for special reasons. Instead of the classical dose of calomel and salts, two or three high enemas were given to flush out the colon.

I have followed this practice now for over a year to the great satisfaction of patients, nurses and surgeons. It includes operations on the stomach, gall-bladder and ducts, intestine, uterus, tubes and ovaries.

A bowel that has not been vitiated by a saline scouring is in condition, physiologically and bacteriologically, to prevent the excess formation of gases, and to expel those that do form. It is the gas distention which causes the bulk of the postoperative distress. This complication being reduced to a minimum, fecal contents are taken care of by normal peristalsis or by enemas if required.

The following are the most important conclusions which I have reached after a study of this subject:

The food normally passes rapidly from the stomach and through the small intestine. The small intestine is practically empty six hours after an average meal. In the cecum and colon the bowel-contents remain for from twenty-four to forty-eight hours.

The maintenance of a certain equilibrium between the physiologic and bacterial processes in the intestine is necessary for normal bowel function.

Saline cathartics disturb this poise to a marked degree, making their use a matter of grave consideration.

After the intestinal mucosa has been depleted and exhausted by any powerful cathartic, it takes some time

21. Dohrn, Marxer and Zuelzer: Berl. klin. Wchnschr., 1908, No. 46.
22. Zuelzer: Internat. Zentralorgan f. Blut u. Serumforsch., 1910, vi.

to recover its energy. During this time bacteria flourish unmolested by intestinal ferments.

Intestinal antisepsis is at best of unknown and doubtful efficacy; a comparative asepsis is practical.

An artificial evacuation of the large bowel, satisfactory for most surgical and many other purposes, does not require the ingestion of any drug acting on the small intestine. High rectal injections are efficient and cause less damage and discomfort.

A cathartic given in the beginning of an acute intra-abdominal infection is a dangerous practice and contrary to modern scientific knowledge and experience. Numberless gravestones mark the disregard of this principle.

Patients who are prepared for laparotomies by a restricted diet and rectal injections have a much more pleasant postoperative recovery than have the patients who have been purged.

INTRA-ABDOMINAL PRESSURE

ITS IMPORTANCE IN MAINTAINING STATIC EQUILIBRIUM AND THE NECESSITY OF CONFORMING TO ITS LAWS IN THE RESTORATION OF ORGANS TO THEIR NORMAL POSITIONS*

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As the Roman gladiators in the days of old entered the arena to meet each other in deadly combat or to be torn to pieces by the fierce Numidian lions, it was their custom to greet their audience with the expression *Morituri salutamus!* "We who are about to die salute you!" Conscious of the wide divergence of opinion on this subject of intra-abdominal pressure and knowing the powers and skill of the many gladiators who enter this arena, to whom the Numidian lion is but a toy, I can only exclaim in the language of the ancients, "I who am about to die salute you." Despite this depression of the hour I am buoyed up by the thought that out of the contest there may perhaps come some slight illumination on the subject or at least some inspiration for further investigation.

The universal application of abdominal section which has come into vogue during the past quarter century for the relief of positive pathologic conditions in the abdominal cavity has brought to light a startling frequency of ptosis, sometimes of one organ, sometimes of another, and occasionally of all. Many and various surgical procedures have been instituted for relief of these conditions but with varying and uncertain success. Failure to obtain satisfactory results has led certain investigators to inquire into the causes of ptosis. And these wise men tell us that ptosis is due to "abdominal static conditions," that these conditions are produced by "aberrant intra-abdominal pressure," which, in turn, is produced by "faulty postures;" that "faulty postures" of the body come from "lack of physical vigor and vitality," "that ptosis interferes with digestion and assimilation" and hence the lack of vitality. And so we go around in this vicious circle, like a dog chasing his own tail.

We can understand faulty postures; lack of vitality is comprehensible; ptosis we recognize when we see it; static conditions are explicable, but the one link in the chain that eludes us is intra-abdominal pressure. What is intra-abdominal pressure? Breathe softly now, for we are on sacred ground. Intra-abdominal pressure is a great mystery.

At the meeting of the British Medical Association, Sheffield, England, in 1909, I had the honor of being invited, as the American representative, to open the discussion on displacements of the uterus and operative procedures for their relief. In these remarks I presented my conviction regarding the importance of ligaments in maintaining the normal position of the uterus. In the general discussion which followed I was informed by one of my British confrères that this matter had all been settled in previous discussions on this subject; that ligaments had nothing to do with the case; that abdominal and pelvic organs, as was well known, were held in place by intra-abdominal pressure and the floor of the pelvis; that the liver, which had many square inches of space on the lower surface, was lifted up by an intra-abdominal pressure many times its weight.

It has interested me to discover what was being taught the present generation of medical students in regard to this matter, by putting to the applicants who apply for positions as interns in the various hospitals with which I am connected the question: "How are the kidneys and the liver kept in place?" The common reply is, "The ligaments may have something to do with it but the chief support is negative pressure." When I inquire, "What is negative pressure?" the universal response is, "I don't know what it means, but that is what I was taught."

Let us revert again to the question, What is abdominal pressure? Intra-abdominal pressure may be defined as pressure within the abdomen due to external atmospheric pressure, to gravity, to muscular contraction of its walls and to intravisceral pressure. The first two, atmospheric pressure and gravity, are constant; the latter two, i. e., muscular contraction and intravisceral pressure, are variable and therefore constantly modifying the intensity of the pressure. The intensity of intra-abdominal pressure at any time and in any place is the resultant of all these forces working together at the specified place and specified instant of time. Muscular contraction has reference not only to the abdominal walls, but also to the diaphragm, which forms the upper wall of the abdomen and modifies intra-abdominal pressure with every breath. By intravisceral pressure is meant the pressure produced by a full stomach in filling the abdominal cavity and thereby increasing the pressure. The stomach contents may be solid, liquid or gas. This applies equally to the intestines. To a minor degree a full gall-bladder or an enlarged liver may increase intra-abdominal pressure, and likewise any pathologic tumor.

We all recognize that the specific gravity of the organs and other contents of the abdomen do not vary much from that of fluids, and consequently, intra-abdominal pressure corresponds closely but not absolutely to hydrostatic laws. If we press the abdominal wall with the hand, the pressure is communicated in all directions till it meets with organs or tissues that are of greater density. These cannot transmit the force with equal facility and consequently they reflect what they cannot readily transmit, but finally are pushed before it till the force has been equally distributed and equilibrium has been attained. This moving force would be felt least by the

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at its Sixty-Third Annual Session, held at Atlantic City, June, 1912

intestines if they are filled with fluid contents, more, if the contents be solid and still more if they are gaseous. The kidneys and liver, being closely attached to the diaphragm, would be pushed up against the diaphragm and the uterus would be pushed down.

If a vessel is filled with fluids of different specific gravities, the contents will be subjected to the laws of gravity and the heavier fluids will go to the lowest level; they will arrange themselves according to their relative specific gravities.

Likewise in the abdomen, were there no ligaments, the various organs would arrange themselves according to the same law and, the weightiest ones would go to the lowest level. The support each organ receives from its ligaments, therefore, must, at least, be equal to its excess of specific gravity over the specific gravity of water. The ligaments of the abdominal organs are therefore the determining factor in maintaining them in their relatively fixed position. We know, moreover, that the strength of the ligaments supporting the intra-abdominal organs is far greater than this, as is illustrated by the resistance they offer to displacement even after air has been admitted. We all know, for instance, how difficult it is at operation, even after air has been admitted between it and the diaphragm, to drag the liver down to a position of accessibility.

Granting, then, that the ligaments are the factors that suspend the organs and determine their fixed relative positions, it is interesting to note how the intra-abdominal pressure adds its influence to the same end. As the abdominal muscles contract, intra-abdominal pressure pressing in all directions, though unequally, and being reflected from the posterior bony wall of the abdomen, must impinge on the under surface of the liver and force it up against the diaphragm. So my English friend was partially right, but wrong in his insistence that intra-abdominal pressure was the whole thing.

The laws of hydrostatic pressure have been accepted by some as the key to the problem, and on these laws have been constructed complete and elaborate theories which, at first blush, seem to be quite convincing. In the elaboration of the details of intra-abdominal pressure, however, they fail to answer satisfactorily many important questions and we are driven to the conclusion that fluids either in equilibrium or under active pressure do not tell the whole story. Careful investigation reveals many reasons for this. In reviewing this subject, we must take into consideration the following facts:

1. Abdominal and pelvic cavities, whether considered individually or as one continuous chamber, have both elastic and inelastic walls.

2. The interior conformation is most irregular and made up of reflecting planes of pressure at various and varying angles to each other.

3. Within these cavities are many organs of various shapes and density which transmit and reflect pressure with varying degrees of facility and speed.

4. Some of these very organs at successive and alternating periods contain solids, liquids and gases.

5. These tissues are all vital tissues acting under physiologic laws.

The dynamics, therefore, of the abdominal and pelvic cavities are not restricted to hydraulics, and we must follow the ramifications of pressure when applied on any part of the surface of the cavities guided by the laws of reflection and deflection, of transmission through vital tissue, and all constantly modified by physiologic action.

Without dwelling on pressure as relating to the abdominal cavity our interest is more directly concerned in this discussion with conditions in the pelvis. In this cavity the application of pressure is physiologically directed toward expulsion of the contents, either of the uterus, the bladder or the bowel. Here is where we have the most striking illlustration of the importance of deflecting planes in directing expulsive force into the axis of the pelvic outlet. This mechanism of deflection and the importance of understanding the action of the deflecting planes is pronouncedly exemplified in the progress of the fetal head through the various straits of the pelvis. In this the bony planes play the most conspicuous part. In the evacuation of the bowels, however, we have the intra-abdominal pressure coming down into the pelvis which, to accomplish its desired result, must likewise be deflected into the axis of the pelvic outlet. Under these circumstances the resultant of these forces, which finally determines their ultimate effect and which we must follow if we wish to determine their action, exerts itself most directly on the posterior face of the uterus and its broad ligaments. This plane of tissue is thereby forced down to a lower level in the pelvis till its progress is interrupted by the resistance of its ligaments, more especially the cardinal ligaments, and in extreme instances by the crest of the perineum. At this stage the longer arm of the uterine lever (i. e., the fundus) is arrested by this resistance, while the posterior free pole of the uterus (i. e., the cervix) is forced farther down, thus tilting up the fundus and thereby deflecting the pressure backward and downward on the rectum in the axis of the outlet. As Sturmdorf says:

> Were this pressure to continue without deflection, this upward tilt of the anterior arm of the uterus must continue and, extending beyond the perpendicular, would retrovert the uterus and force its long axis into line with that of the vaginal outlet. The uterus in this position would fall into the direct axis of the expulsive planes where it is subjected to such irresistible pressure that the ligaments give way and prolapsus uteri ensues with its accompanying complications of rectocele and cystocele.

To my mind, the importance of this deflecting plane of tissue represented by the uterus and its broad ligaments, in deflecting intra-abdominal pressure, cannot be overestimated. It is undoubtedly true that the ligaments of the uterus would be incapable of resisting normal intra-abdominal pressure were it continuously applied in the direction in which it first impinges on it. By the resilience of its ligaments and their muscular contractions this force is deflected, and the uterus, when relieved of this pressure, is elevated to its normal topographic position by the uterosacral and round ligaments. Says Sturmdorf:

> It is a gross misconception of function to attribute visceral support to textural strength of ligament or muscle; the muscle or ligament is not created that can permanently withstand the continuous force of intra-abdominal pressure. These muscular and ligamentous elements serve to support the pelvic contents, not by virtue of their textural resistance to displacement, but by deflecting the displacing force of intra-abdominal pressure.

The failure of procedures for displacement of the uterus which involve fixation of that organ to the abdominal wall tends to confirm this principle and is a pertinent demonstration of the fallacy of substituting artificial for normal physiologic support. The normal physiologic support of the uterus resides in its ligaments. They are therefore the proper tissue to utilize in any

operation for the restoration of the uterus to its normal position and physiologic function as a deflecting plane.

The one new feature then to which I am directing attention in this discussion of intra-abdominal pressure is that of the reflecting and deflecting planes which determine the direction that shall be taken by the resultant of all these component forces. For many years I have been teaching the action of the posterior wall of the uterus and the broad ligaments as a deflecting plane of intra-abdominal pressure, as it enters the pelvis. I have also emphasized the importance of the uterine ligaments in their function of restoring equilibrium, after it has been upset by these expulsive forces. It was not till I read Dr. Sturmdorf's paper that I realized the wide application of this principle of reflecting and deflecting planes both as retentive and expulsive elements.

What about the floor of the pelvis? "The stimulus which excites the abdominal muscles into activity induces a simultaneous contraction in the perineal musculature. The elements of this musculature are so arranged that their contraction elevates the perineal plane; this elevation carries the perineal fulcrum up to the uterine lever, raises the depressed posterior arm of this lever to the level of its anterior arm, thus restoring anteversion; at the same time, this elevation of the perineal plane narrows the essential uterovaginal angle, preserves the potentiality of the vagina by converting its actual canal into a valvular slit and practically closes the pelvic cavity."

This last paragraph explains fully the physiologic action of the floor of the pelvis when great effort is being made. We must bear in mind that there are two conditions under which intra-abdominal pressure acts as revealed in the pelvis: first, when the patient is making great physical effort, as in lifting heavy weights, and second, when straining at stool, in parturition or in micturition. Now let us see how the floor of the pelvis acts under each of these two conditions. When great effort is to be made the first act is the drawing of a long breath to fill the lungs; this contracts and sets the diaphragm, which in turn fixes the position of the sternum and the ribs. This gives a fixed point of support to all the muscles of the abdomen and thereby makes rigid the entire trunk of the body. This naturally increases intra-abdominal pressure and would tend of course to drive out the contents of the bladder and the rectum.

This would be unfortunate and naturally is to be avoided. This is prevented by an interdependent and correlated nervous control which induces a simultaneous contraction in the perineal musculature, as Sturmdorf has explained, and so maintains the integrity of the pelvic outlet. This closes the pelvic cavity and adds its musculature to that of the abdominal walls in sustaining the integrity of the trunk while the musculature of the arms and legs is being brought into play with full force.

In the second condition, in which expulsion of the contents of the rectum and bladder is to be accomplished, the floor of the pelvis, by the same reciprocally acting nervous force, is relaxed and forced down by the intra-abdominal pressure, till it reaches a point at which the overstretched levator muscles react and the pelvic outlet is lifted over the mass to be expelled, as the finger of a glove is lifted over the end of a finger. This process is conspicuously seen in the two processes of parturition and defecation. I yield to no one in emphasizing the importance of restoring the levator ani muscles to their physiologic functions in repairing the floor of the pelvis.

The purpose and the physiologic function of the many muscular ligaments which the uterus possesses had long been a conundrum to me, but in the light of their function in regulating the angle of the deflecting plane of the uterus and its broad ligaments, the whole subject becomes clear. The uterus is successively lifted up by the bladder and twisted about on its longitudinal axis by a full sigmoid either to the right or left and therefore keeps its ligaments busy maintaining a proper face or plane to intra-abdominal pressure which expands itself on this surface, not only in extreme effort, but with the frequency and force of every respiration.

In all operations for the restoration of the uterus to its normal position, in cases of displacement, attention must be given at all times to the restoration of this deflecting plane in order to restore physiologic function and thereby permanency of result. To my mind this is best accomplished by utilizing both the round and the uterosacral ligaments.

In the use of the pessary the same principle is involved; the retroversion pessary, in order to be efficient, must reach up sufficiently high above the cervix to take in the slack in the uterosacral ligaments as well as the posterior fornix vaginæ. At the same time, it must not be so long that it cannot yield to intra-abdominal pressure sufficiently to permit the uterus to tilt up and deflect the pressure back into the axis of the pelvic outlet.

The importance of restoring this physiologic deflecting plane of the uterus and broad ligaments is most conspicuous in operations for the relief of procidentia with its accompanying complications of rectocele and cystocele. Where the uterus is retained, this is accomplished, as has been said, by shortening the round and uterosacral ligaments. In extreme cases of procidentia in which the uterus is removed, the same deflecting plane is reconstructed by stitching together the broad ligaments across the pelvis from side to side. By including in this suture the infundibulopelvic and round ligaments as well as the uterosacral and the cardinal ligaments, at the base of the broad ligaments, we restore function as completely as if the uterus had not been removed.

In all plastic operations of this character, the object of the procedures should be reconstruction of anatomic structure and restoration of physiologic function and support. Too often in the past, and, indeed, in many of the procedures of the present, the result of the operation eventuates in uniting dissimilar tissues and building up a pathologic obstruction represented by a cicatricial plug.

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ABSTRACT OF DISCUSSION

Dr. A. Sturmdorf, New York: Dr. Goffe has struck a keynote. For years we have floundered in a maze of academic controversy as to the nature and influence of intra-abdominal pressure on visceral support. Thus it is generally assumed that the subdiaphragmatic and pelvic viscera are subjected to different and opposite effects of tension termed respectively "negative" and "positive" pressure; negative defining a pressure less than atmospheric and positive a pressure more than atmospheric or 15 pounds to the square inch. Accordingly, negative pressure implies the existence of a partial vacuum in the upper abdominal space, an obviously inconceivable state, which would necessarily produce a pneumatic compression and immobilization of the hollow viscera placed under the dome of the diaphragm, such as the stomach, intestine and vena cava, in addition to all of which respiration would be seriously involved.

Furthermore, the unfortunate misapplication of hydrostatic principles to the solution of our problem presents another will o' the wisp that lures to error. These laws, when applied to homogeneous fluids under pressure in a rigid retainer of uniform outline and resistance, permit exact calculation, but unfortunately, the abdomen is uniform neither in outline nor in resistance. Its walls are bony here and muscular there, while its contents are not homogeneous, but solid, semi-solid, fluid and gaseous.

One familiar principle in dynamics illuminates this complex subject, namely: The direction of any given force impinging against a resistant plane becomes definitely deflected, the degree of deflection being governed by the axis of the deflecting plane's surface. This finds familiar exemplification in our daily experience. The abdominal cavity presents a compound deflecting mechanism for intra-abdominal pressure and every phase of normal and abnormal visceral support is dominated by intra-abdominal pressure under normal or abnormal deflection. The injured pelvic floor distorts deflection with resulting visceral displacement, and so on, throughout the whole range of visceral ptoses we will find ourselves confronted with the great question of perverted intra-abdominal pressure from misdirected planes.

DR. CHARLES P. NOBLE, Philadelphia: In the general principles Dr. Goffe has left out the factor of the patient's energies. When one has full vital energy ptosis does not occur because the vital energies so energize the patient's tissues that they have full tonicity and the patient is a physiologic organism. On the other hand, with lowered vitality there is diminution in the amount of energy and malasymmetry in its distribution. Hence, we never have ptosis in one who is fully developed, unless the individual becomes sick, when he acquires what the other individual always has, namely: lack of energy. Then the tissues become atonic and the forces are asymmetrically distributed with the result that the intra-abdominal pressure is relaxed, bringing about abdominal ptosis.

DR. A. GOLDSPOHN, Chicago: I think Dr. Goffe is correct in regard to the four different contributing factors to that which we call "intra-abdominal pressure." The direct result to us, however, is what does it do in the woman's pelvis, and are ligatures necessary or not? It is the predominating feature in defecation and urination. We know that when we defecate or urinate we have no power over the bladder or the rectum to make them contract beyond simply releasing the sphincters of those organs to empty them. We force out their contents by applying intra-abdominal pressure in the pelvis, not by a liquid, not by a gas. If that were so, it would not make much difference so far as the position of the uterus is concerned. But intra-abdominal pressure is conveyed by solid organs, or partly solid organs. A mass of small intestines is sent as a more or less solid mass down into the pelvis, and the question of importance is whether this mass goes in front of or behind the uterus. If it goes behind the uterus, the uterus will be tilted forward. The ligaments holding it forward will not be injured but, if this mass descends in front of the uterus, all the ligamentary attachments of the uterus are viciously acted on and if this vicious action is repeated or continued, as Dr. Goffe has said, there is no muscle that can stand it. Therefore, it is necessary that there be ligaments not simply to suspend it, but also to stand on guard and guide its body forward when it has been temporarily displaced backward by a full bladder or rectum or both.

DR. J. RIDDLE GOFFE, New York: The practical conclusion to be drawn from my paper—at least that which I draw—is that the ligaments are the important factor in maintaining this plane of tissue that I have described in the pelvis, which deflects intra-abdominal pressure as it comes down from the abdominal cavity. So long as those ligaments do their work, normal equilibrium is secured and the uterus remains in place. The multiplicity of ligaments of which the uterus is possessed was for a long time a puzzle to me. They were said to be guy-ropes; and so they are, turning the uterus in every direction to meet the intra-abdominal pressure which strikes it at various angles and would drive it down into the perineum and out of the body were it not for the fact that these ligaments enable it to deflect the resultant of these forces from its direct line of impact and divert it into the axis of the outlet. Therefore, I say that in all operations for the relief of displacement of the uterus the indication is to utilize the ligaments, to restore normal position and at the same time to restore the function of deflecting intra-abdominal pressure.

A PLEA FOR AN EARLIER DIAGNOSIS OF PELLAGRA*

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That pellagra is going to be one of the most serious problems with which we will have to deal in the next few years nobody can deny. It is certainly assuming alarming proportions and is slowly but surely pressing its way into the middle and northern states. It looks as if it were going to become endemic all over the United States, and at present it is almost epidemic in the south.

One who has followed the history of etiology of pellagra cannot help being conservative in adapting a certain theory. So many theories have been brought forward, adapted, rejected and then again adapted, that one cannot blame the "doubting Thomases" among the medical profession. Some of the theories were very attractive, but lacked scientific corroborations. Some thought this disease to be a phase of syphilis and leprosy, while others attributed it to incomplete metabolism, causing a symptom-complex known as pellagra.

The following agents were believed to be the cause of pellagra: sunshine, corn, poverty, cottonseed oil, the sand-fly, a water-worm, the buffalo-gnat and ameba. The corn theory is the most attractive.

I have studied my cases of pellagra on Kentucky ground. We have in Kentucky over one thousand known, and as many unknown, cases of pellagra. Though "the sun shines bright in my old Kentucky home," and the corn is not only consumed, but also the "corn-juice" imbibed a great deal, yet I do not believe that sunshine and corn are the real causes of pellagra any more than grape-seeds are the cause of appendicitis. If corn had been responsible for the disease, why did we not have pellagra in the south long ago? Corn has been grown largely in the south and has been one of the chief articles of diet, and no mention of the disease was ever made during the period of rebellion. Historical records speak of malaria and other diseases, but not a word of pellagra or a similar disease, though hygiene, food, and storing and handling of the corn products must have been very bad.

Spoiled corn is eaten in all seasons. Why, then, does the disease show a decided seasonal incidence? I do not believe in Sandwith's assertion that well-to-do people in pellagra districts, living on a varied diet and consuming maize as an occasional and not a staple cereal, usually escape pellagra. Of late many cases of pellagra were reported among well-to-do people, who partook not at all or very little of corn. In some instances no history of the consumption of corn in any form could be obtained.

The zeists' claim, that a certain toxin may be formed in the cereal and not a living bacterium, and that the said toxin may be purely chemical and of an alkaloidal nature, cannot be substantiated. Had the toxin been

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

of a chemical nature, why, then, does this disease appear only at certain seasons with intervening periods of quiescence almost like malaria and other diseases of bacterial nature?

I do not believe in Mizell's cottonseed oil theory as the cause of pellagra. Cottonseed oil is consumed in large cities and very few, if any, cases of pellagra are reported. In Russia where sunflower-seed oil and also imported cottonseed oil are consumed by the peasantry and city dwellers in large amount, particularly during Lent, pellagra is unknown.

The morbus miseriæ theory of the old authors is also absurd. The absurdity of this theory is at once apparent when we consider that poverty is as old as the human race, whereas pellagra is a disease of the last 200 years, and that in Russia, Ireland, Galicia, Poland and a great many other quarters of morbus miseriæ, pellagra is unknown.

Deficiency of sodium chlorid in the food is declared by some to be the cause of pellagra. It is asserted that pellagra is more prevalent in Italy where polenta and corn-pone are made without salt and that since the peasants were advised to add salt, pellagra has diminished. But all such reports lack confirmation.

I don't want to pose as a dissenter and as an antagonist to the views of scientific workers; I simply want to state that the more I see pellagra cases, the more I get into their history, surroundings and possible causes, the more difficult it is for me to convince myself that the disease can be attributed to corn.

In science, as in religion, it is often hard to get rid of fostered dogmas or theories. Fostered dogmas or theories often become a habit. If it had not been for the fostered theories of Ballandini, Lambrose, Marie and others, independent ideas might have developed and the true causes have been sought. It is from the individual, uninfluenced researches that we may find the real cause of pellagra.

What is, then, the real etiology of pellagra? A great many theories have been advanced, but all of them proved wanting in actual corroboration. Though the actual cause of pellagra is still unknown and though many theories have been advanced by earnest investigators, the most plausible theory is a specific infection by a protozoan.

After a careful study of locations of pellagrins, I believe that Sambon's sand-fly theory does not hold good. I have found a great many cases of pellagra in locations where flowing streams and the sand-fly were absent. We also know that in the last two years quite a number of cases have developed in cities.

Alessandrini's latest theory that pellagra is caused by a water-borne "nematode worm" is rather speculative. He claims to have constantly found in the shallow wells and small flowing streams numerous larvæ of the family *Filiaridæ*. The absence of pellagra in localities abundant in flowing and wet-weather streams, and in shallow wells dotted with numerous springs contradicts his theory.

Professor Garman, of the Kentucky Experiment Station, attributed the cause of pellagra to the buffalo-gnat, but his theory courts the same contradictions as Sambon's.[1]

The amebic theory of pellagra has attracted many followers. We have amebiasis in countries where pellagra is unknown. Hardly ever are amebas found in the stools of pellagrins. Skin manifestations due to amebic conditions are entirely different from pellagric skin lesions. In amebiasis urticarial eruption, scarlatiniform erythema and pustulation are found, and the areas of eruption are more extensive and static. Such skin manifestations are never seen in pellagra.

The most probable cause, to my mind, is the transmission of pathogenic trypanosomes by the migratory birds, particularly blackbirds. Maybe my theory does not solve the problem any more than those of other investigators and will need further corroboration, yet I firmly believe in it and am entitled to a hearing.

I wish to disclaim entire originality of this theory. I am grateful to Dr. Eisenman, the Kentucky state veterinarian, and his collaborator, Dr. Purdy, who rendered me assistance in my investigations, and who came to the same conclusion as I did.

Last August there were many endemic cases of pellagra-like diseases among horses and cattle in certain localities. In a great many instances, human pellagrins came from the same localities. Drs. Purdy and Eisenman kindly made investigations and from their reports I have found the following:

A number of horses, having partaken of supposedly spoiled corn in shucks, developed meningeal symptoms similar to blind staggers. Only two or three of the number were affected. The disease did not resemble the symptoms that horses usually develop from eating spoiled grain. Horses that partake of spoiled grain usually develop acute and severe meningeal symptoms, and either die immediately or recover; they quit eating, and the loss of power of deglutition is the prominent symptom. It usually affects all the horses that have eaten of the spoiled corn, while in the pellagra-like disease, only a small number of the horses were affected, and they never lost the power of deglutition, and continued to eat and drink until they died; none recovered.

The conclusion which we reached was that these horses had died from a disease similar to that caused by *Trypanosoma equinum* found in South America and other tropical countries, and that the blackbirds might have been responsible for it. In the last few years, certain localities, where pellagra prevailed extensively, have been infested by the migratory birds (particularly blackbirds) in very large quantities on their way from tropical countries. On their way northward, they make their stopping-places in the south. Seasonal incidence of pellagra, spring and autumn, coincide with the coming and leaving of blackbirds and other migratory birds. In their work on trypanosomiasis, Novy and McNeal state that they have found trypanosomes in the blood of migratory birds and that the blackbird came first on the list. Since our knowledge of trypanosomes is not yet exact, we can hardly draw the line between the different species. The difficulty in classifying the different species arises from the fact that the same species in the same animal presents so many changes that, should the different forms of one species be found in the different animals, they would be assigned to different species without hesitation.

Whether the trypanosomes undergo a developmental cycle in the blood-sucking insects by biting the blackbirds, we do not know. To my mind, insects like flies and mosquitoes are simply passive carriers of trypanosomes. For the last few years there was prevalent an unusual number of mosquitoes and flies in localities where pellagra and that strange disease among horses raged the most. In the districts where people took little

1. Since the article was written a bulletin has been issued by Professor Garman in which he confesses himself to be yet unable to state the cause of this disease, and further investigations seem to have shaken his confidence in the buffalo-gnat theory.

precaution against mosquitoes and flies, cases of pellagra were found in greater numbers.

The conclusion reached by me from investigations into the cause of pellagra and the pellagra-like disease among horses is that the blackbird and a few other species of the migratory birds are responsible for this disease. The transmission of this disease to human beings and animals is probably accomplished by two methods: bites of preying mosquitoes and flies; accidental ingestion of the cysts, deposited with the feces of insects, on the surface of plants, thus causing the infection.

Though at present no trypanosomes have been found in the blood of human pellagrins and the pellagra-like diseased animals, the indications are that some species of trypanosomes will be isolated in the near future. Experiments are being conducted in a good many places with far more scientific earnestness than ever before.

I will not repeat the symptomatology of pellagra; it has been thoroughly covered in text-books, articles and essays. I only want to repeat that the disease has the appearance of a trophoneurosis, superinduced by some specific germ. The early involvement of certain areas of the skin, especially such exposed places as the hands, neck and feet, suggests leprosy; in pellagra, as in leprosy, hyperesthesia and then loss of sensibility are found, with, sometimes, thickening or rough surface and discoloration. The most prominent feature in pellagra is the onset at the beginning of each successive spring and the subsidence toward autumn. As in leprosy, the cutaneous disorder is apt to come and go at first, reappearing at the same spots and gradually becoming fixed.

I have seen some cases of pellagra with deep discoloration of the skin, with bronze-like spots, resembling Addison's disease; then, again, some cases have initial bright erythemata of the dorsum of both hands, neck and forehead, changing to copper-colored spots as in syphilis; I have seen some cases in which the erythema began to desquamate as in psoriasis, and even ulcerate; I have seen bleb formations in old as well as new cases; hands keratosed and fissured.

But in all cases one is certain to find prominent demarcation of the skin lesions, fiery-red tongue, slimy and divested of epithelia as often seen in purpuric and scorbutic conditions, and, in about 75 per cent. of the cases, diarrhea.

In the majority of cases, the blood-picture was similar to that in malaria and anemia. Nervous and mental symptoms appeared in highly developed cases and became more severe with each successive year.

I have seen some patients who resembled mummies with shriveled sallow skin, movements slow and languid, sensibility diminished.

The histopathology of pellagra presents no extraordinary changes. We find parakeratosis as the result of erythema and edema; some skin acanthosis or multiplication of the prickle cells of the malpighian layer, resulting in great thickness, especially of the interpapillary processes.

The post-mortem pathology resembles that of mycosis fungoides. The prominent features are cachexia, wasting of the fat and muscle atrophy, fatty degeneration of the liver, kidney and heart, pigmentary deposits in various tissues, edema of meninges and chromatolysis of the cells of the anterior horn of the cord. Such is the biopsy and autopsy of pellagra.

Did any one ever diagnose a case of pellagra without the skin lesions? I do not believe so, for the skin lesions are really the most important symptoms of pellagra. The very name "pellagra" means "rough or diseased skin." Thus, to my mind, the early diagnosis of pellagra rests with the dermatologist. I have seen some cases of pellagra diagnosed as erythema and eczema, and, again, cases of erythema caloricum, urticaria and eczemas diagnosed as pellagra. Any suspicious case that baffles the general practitioner should be referred to the dermatologist. Neurologic symptoms alone are not sufficient, since many of them are due to syphilis. Mouth symptoms also cannot be depended on, since stomatitis is due to many other causes. Intestinal troubles are not to be entirely relied on, since tuberculous enteritis and amebic dysentery may be the causes. So, it is the skin first and the skin last that we may count on as the chief diagnostic symptom, while the other symptoms, even more important, are, as a matter of diagnosis, secondary. Thus, we see that with the dermatologist, who must also be a good internist, rests the early diagnosis of pellagra. The skin symptoms may change from a vivid red to dark red, pale red to bronze color, at times hardly noticeable, but the trained eye of the dermatologist will detect pellagric skin even when the skin lesions have almost disappeared and only slight traces are left.

I do believe in prophylaxis of pellagra, but very little in treatment. Arsenic and urotropin (hexamethylenamin) may be tried, but we cannot vouch for their efficacy. The very fact that arsenic is seemingly exerting a curative effect on pellagra would itself indicate that the disease is of protozoan nature.

I do hope that the time is not distant when a serum diagnosis of pellagra will be found, a serum which will solve the burning question of to-day. I do not care whether it comes from the north, south, east or west; it may come from darkest Russia, but it will be hailed with delight.

In conclusion, I want to thank Dr. Gardner, of the Kentucky Central Asylum; Dr. Nevitt of the Eastern Kentucky Asylum; Dr. Frank Clark, of Lexington, who has made a special study of pellagra, for the courtesies extended to me; and also the hard-working country physicians who were kind enough to refer to me cases for diagnosis.

ABSTRACT OF DISCUSSION

DR. HOWARD FOX, New York: It seems extraordinary that any disease on which so much time, money and research have been expended for the past 150 years should have led to such barren results as has been the case with pellagra. We know absolutely nothing regarding its cause or rational treatment. The latter, thus far, is simply symptomatic. About two years ago I made an effort to see whether there was any possibility of curing patients suffering from pellagra with the serum of animals suffering from epizootic. I found a mule suffering from this disease, and, after bleeding him, had the serum put into sterile bottles. Dr. Babcock agreed to use it in some of his cases of pellagra, but was unable to do so. Subsequently, I tried it in New York on a patient from Georgia, but was not able to report any definite results.

DR. A. RAVOGLI, Cincinnati: While the etiology of pellagra is still obscure, I have always been inclined to the theory that it was due to the use of spoiled corn, and I still cling to that idea. At the last International Dermatologic Congress in Rome I saw a number of patients with pellagra who had eaten nothing but corn-meal, among whom were children 2 and 3 years old. In this disease we have a toxic erythema affecting the skin and mucous membranes, including that of the pharynx, causing difficulty in swallowing and burning sensations in the palate, and later on, gastric disturbances and diarrhea. In Italy, the disease is divided into three stages: in the first, the symptoms are confined to the skin and mucous membranes; following this we have the diarrhea, and finally the mental symptoms—dementia and delirium. In connection with the

cases occurring in this country we should bear in mind that in Kentucky and other southern states, corn is one of the staple articles of diet.

DR. G. W. MURRELL, Richmond, Va.: I was with Dr. Howard Fox in Columbia, S. C., where we had an opportunity to examine Dr. Babcock's cases, and in addition to those I have seen cases in the asylum near Richmond and about twenty cases in private practice. In the region of the south where I live, and where corn has been a staple article of diet for generations among the natives—less so among the more recent immigrants in that section—I think we should have seen pellagra long ago if the disease was due to that article of diet. Be that as it may, we have become convinced that pellagra is rapidly on the increase, and has become a serious menace in our state. Formerly, we associated pellagra with poverty, but during the past year I have seen in private practice, patients afflicted with this disease who belonged to the better classes.

DR. E. S. LAIN, Oklahoma City: Dr. Griffin, who is a student of the disease and superintendent of our state sanitarium for the insane, in which we always have pellagra, is inclined to believe that it is a secondary disease, as he so frequently finds it complicating carcinoma, tuberculosis and other chronic affections. I have observed it in a case of carcinoma of the vulva, which was the immediate cause of the death of the patient, and I have also seen it in tuberculosis. I am inclined to agree with Dr. Murrell that the popular belief that pellagra is a disease of the poor is not well founded, as I have seen cases in some of the best families in our city. Four years ago I saw the wife of a physician die from a typical case of pellagra, and last year I saw a druggist living among the best surroundings and boarding in one of our best hotels, who succumbed to the disease. I have never been able to accept the corn theory as the cause of pellagra, nor am I so strong an advocate of Sambon's sand-fly theory now as when it was first suggested. Thus far I have not been able to find a single case of pellagra among the Indians in Oklahoma, where, especially in the western section of the state, raw meat and the very cheapest kind of corn are the staple articles of diet. Here, the Indian pitches his tepee alongside of the running streams, an ideal location for the infection claimed by Sambon. He lives there and is exposed to all kinds of flies and insects, and although he becomes infected with many diseases, pellagra, thus far, is not among them.

DR. MARCUS HAASE, Memphis: My experience with cases of pellagra, both in hospital and private practice, would lead me to coincide with the views expressed by Drs. Murrell and Lain, that the use of corn as an article of diet cannot be regarded as an etiologic factor. I saw Professor Sambon last summer, and he stated that he was fully convinced that corn had nothing to do with this disease. Within the past year I have seen three cases in children—4 weeks, 6 weeks and 8 weeks old, respectively—in which corn could be absolutely ruled out, and while I am not prepared to accept the Sambon theory *in toto*, I agree with him that corn is not the causative factor in these cases. I have had no success with any method of treatment thus far, and would be pleased to give the mule serum a trial.

DR. H. H. HAZEN, Washington, D. C.: I spent a day with Sambon, and heard him report several cases in which young men visiting in pellagra districts developed the disease in the course of from four to six weeks. I have also seen some cases in young children, and in one of those cases the mother of the child did not have pellagra. In an autopsy recently performed by Sambon, he found a parasite in smears made from the brain. I tried to confirm his findings, but was unable to do so. I think the discovery of a pseudoparasite in the brain in these cases is well worthy of further investigation.

DR. M. L. RAVITCH, Louisville: I am glad to hear that the consensus of opinion, as expressed here to-day, is against the corn theory. I can readily understand how Dr. Ravogli has become imbued with this theory in Italy, and it is hard for him to get away from it, but I am sure that after he sees as many cases in the south as we have seen, he will be ready to agree with us that corn cannot be regarded as the causative factor of pellagra.

REPORT OF A CASE OF GONORRHEAL PYELITIS

LOUIS C. LEHR, M.D., WASHINGTON, D. C.

The literature on this subject is slight, embracing in all about twenty cases. In five the gonococcus was obtained only from the voided specimen; in two the pyelitis was due to a mixed infection; in four no cultures were obtained; in one a nephrectomy was done and the diagnosis made from the specimen; in four the disease was only recognized at autopsy. In only four were cultures obtained from the kidney during the course of the disease.

There are certain features about my case that are of special interest; it shows the possibility that this complication of gonorrhea may be more common than the comparative scarcity of the literature would indicate.

The report of my own case is as follows:

History.—The patient, a man, aged 27, came under treatment Nov. 6, 1911, complaining of a urethral discharge and painful micturition. He had had two previous attacks of gonorrhea in 1903 and 1905, but as far as could be ascertained these attacks were confined to the anterior urethra, recovery being prompt and without complication. Otherwise his genito-urinary history was negative. He had never had typhoid, Bright's disease or any other disease that would favor such a condition.

Present Trouble.—The present attack, which began on October 5 while returning from Europe, was treated by the ship's doctor by internal medication only. Marked improvement took place and the patient thought he was well. November 3 the discharge reappeared with marked frequency of micturition. He was referred to me November 6 by Dr. S. Logan Owen.

Examination.—A scanty purulent discharge was present, and smears showed pus cells and numerous Gram-negative diplococci. Urine, voided in three glasses, contained pus and diplococci. Albumin was present, but in no greater quantity than could be accounted for by the presence of pus. No casts were present. Terminal hematuria was marked. External genitalia were normal. On rectal examination the prostate and seminal vesicles seemed normal; no enlargement or tenderness were present. Carrying the index-finger beyond the prostatic notch no induration or tenderness could be made out. Temperature was 100, pulse 84.

Treatment.—The patient was put to bed, potassium citrate and tincture of hyoscyamus prescribed, hot sitz baths given and the frequency of and pain on micturition controlled by rectal suppositories. This condition persisted for about two weeks, after which the hematuria and pain gradually subsided. The patient was then put on deep injections of argyrol, 10 per cent. Improvement was steady, although the urine still contained pus with diplococci. The patient left town for three days, and while away indulged in alcohol, resulting in an acute exacerbation, accompanied by hematuria and great frequency of urination.

This acute condition lasted for about one week, and the patient was again put on deep injections of argyrol and later on posterior irrigations. Rectal examination showed no apparent involvement of the prostate or seminal vesicles. After the subsidence of the acute symptoms the patient declared that he suffered no pain or inconvenience at any time, although the urine continued to contain a large amount of pus and diplococci. Temperature and pulse were normal.

The patient remained in this condition until January 20. Two days before that time the bladder was washed out with a strong solution of silver nitrate, which produced little or no pain, and no change in the character of the urine. From this it seemed probable that the pus had its origin from some other source than the bladder, prostate or posterior urethra.

A cystoscopic examination was made on January 20. The instrument was introduced without difficulty or pain, and the following picture observed: The mucous membrane of the bladder showed signs of inflammation over its entire surface. The capillaries were slightly dilated, and the membrane appeared yellowish-red in color. This inflammation was possibly more marked about the region of the trigone. The ureteral orifices appeared normal. No redness or signs of

inflammation surrounded them. The prostatic edge showed no inflammatory changes. From the left ureteral orifice pus and urine were seen escaping with each contraction of the ureter, while from the right ureteral orifice apparently normal urine was expelled. The left ureter was catheterized and cultures made on two tubes of serum agar.

January 22 two tubes of serum agar, made of one part filtered ascitic fluid and three parts beef infusion agar with a reaction of + 1, were used. After the cultures were made the tubes were incubated over night, and the next morning the surfaces were covered with fine dew-drop-like colonies. Incubation was continued another day, and there was no change in the general appearance of the growth, except that the colonies became larger. Transplants were then made to ordinary beef infusion agar and serum agar. No growth of any kind occurred on the plain agar, while the serum agar showed again the characteristic appearance. Smears stained by Gram showed a pure culture of a Gram-negative diplococcus.

January 24 the patient was injected with 50 million of a stock vaccine. On the 25th, 20 c.c. of a 10 per cent. solution of argyrol were injected into the pelvis of the kidney, 20 c.c. being about the capacity of the left pelvis. The next day the urine was markedly improved, although it continued to contain much pus and many diplococci. An autogenous vaccine was prepared at the U. S. Army Medical Laboratory, and 75 million dead organisms injected. At the same time 20 c.c. of a 30 per cent. solution of argyrol were injected. No improvement followed, and on February 5, six days later, the patient was given 100 million organisms from the autogenous vaccine. No reaction followed the injection of the vaccine, and no improvement of the urine was observed. The patient was now left alone for eight days, with the exception of vesical irrigations, and any change in his condition observed. During this time the amount of pus and the number of organisms present in the urine steadily increased.

February 15 the patient was cystoscoped and the same condition of subacute cystitis and purulent urine escaping from the left ureteral orifice was observed. The ureter was catheterized and 20 c.c. of a 1 to 3,000 solution of silver nitrate injected. There was slight improvement.

February 20, five days later, pelvic lavage was given, a small ureteral catheter being used (No. 5 French), and 200 c.c. of a 1 to 5,000 silver nitrate solution injected. Owing to the small size of the catheter used, the solution could easily be returned along the side of the catheter, and by leaving one cock of the cystoscope open (a Brown-Buerger catheterizing cystoscope being used), the nitrate solution was allowed to escape from the bladder. The next day the urine was macroscopically clear, but still contained some pus.

February 23 pelvic lavage was again performed with a solution of 1 to 3,000 silver nitrate, and again on February 26, three days later, with a solution of 1 to 2,500. February 28 the urine was examined, and except for a few small shreds in the first glass—which contained pus but no organisms—was clear. The left ureter was catheterized, and cultures taken on two tubes of ascitic fluid agar and two of plain agar. All four tubes remained entirely sterile. The treatment was discontinued, and the patient was observed until March 12, when he had to leave for his home in the West, at which time the urine still remained clear and free from pus or organisms.

I think we are justified in looking on this case as a pure pyelitis, with little or no involvement of the kidney structure, because of complete and rapid recovery and the absence of any kidney elements in the urine.

The path of infection in this case was most probably by continuity or by means of the lymphatics, or both, the lack of all complications and systemic symptoms indicating the absence of any general infection. Most authors hold that in infection of the kidney by means of the blood-current the cortex would be primarily involved.

The interesting features in this case are:

The insidious onset of the disease, without any symptoms referable to the kidney.

The severity and duration of the posterior urethritis and cystitis, and the lack of fever and toxic symptoms.

The fact that the infection, though severe, was confined to the mucous membrane of the urinary system and involved none of the deeper structures.

The lack of effect of vaccine therapy. This may be due to the fact that the infection was limited to the surface of the mucous membrane of the pelvis where the vascular supply is slight. Better results might be expected where the infection involved the cortex of the kidney with its rich vascular supply. This form of therapy was not continued longer, as gonococcus vaccine acts quickly or not at all.

The slight effect obtained by injecting argyrol or silver nitrate into the pelvis of the kidney in small quantities, and the excellent results of large quantities of a comparatively weak solution of silver nitrate injected, accompanied as it is by the least possible chemical and mechanical irritation.

1737 H Street N.W.

CESAREAN SECTION UNDER DIFFICULTIES

TILLSON L. HARRISON, M.D., DREWSEY, ORE.

Past History.—The patient, a multipara, is a short, heavy-set, stocky-built, muscular woman, aged 24, who has been subject to epileptic seizures since childhood. There is a history of epilepsy in her mother's family also. Eighteen months previously she had been delivered of a child by a high instrumental delivery. The child is epileptic. The patient was seven months pregnant. She had been having eclampsia for seventy-two hours, the attacks varying from fifteen to forty-five minutes and increasing in severity. Examination failed to show any dilatation of the external os, although there was spurious labor. The ranch-house was small, crowded with cow-men, and in a filthy condition, apparently not having been cleaned for months; moreover, there wasn't a clean towel in the place and the light from a dirty smoky oil lamp was poor; nurses and assistants were unknown.

Operation.—The patient was chloroformed in bed and then carried out to the kitchen and placed on the table without any previous bathing or preparation. I had the druggist from the town, who was with me, give the chloroform. An incision was made from the tip of the sternum down to the navel in the median line, using a fine cataract knife. The uterus was forced into the abdominal incision by a ranchman who pressed down on both sides of the abdominal walls; then, using the light cataract (Graefe's) knife, I cut open the uterus from the fundus to the neck in the median line, at the same time taking particular care not to cut through the membranes—the light knife allowing for this. Now with my two hands, palms downward, one on each side, I gently forced them like an entering wedge between the bag of membranes and the uterine wall, and in a few seconds, shelled the whole contents, child, placenta and membranes intact, out, without rupturing the bag, and handed the mass to a woman who was waiting, and who quickly opened the membranes with scissors, and extracted a living child.

Postoperative History.—I made no attempt whatever to control any hemorrhage, but sewed up the uterine incision in three layers, and the abdominal incision in the usual way. I did not wash off the abdominal incision, but allowed the blood to clot and merely put on a dry dressing. Fourteen days later the woman was up and made a 40-mile trip over rough mountain roads in a buggy.

The Psychic Control of the Patient.—The control of one mind over another requires the confidence of the patient in the physician, and the ability of that physician to inspire more confidence in his patient than that patient himself possesses. It is a curious fact of the human mind that those who are weak and are struggling upward are never able to be any better than they think the man who is helping them expects them to be. When once they have gained their self-respect and have regained their former pride and vigor so that they can stand on their own individuality alone, then will they go to any limit of which they are individually capable.—Lambert in *Boston Med. and Surg. Jour.*

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THE CONDITIONS FOR THE EFFECTIVE ACTION OF URINARY ANTISEPTICS

An accurate knowledge of the exact pharmacologic behavior of the drugs employed is a fundamental requisite of the best type of therapeutics. A considerable number of drugs are given as urinary antiseptics by way of the mouth. The urine is an excellent nutrient medium for microorganisms when once they are established therein; but further than this, its reaction is variable through a considerable range of mild acidity to distinct alkalinity, so that the effect of any chemical compound therein may be modified from time to time by the prevailing reaction of the secretion. The usefulness of hexamethylenamin, sold under a variety of trade names, as a urinary antiseptic is established by the consensus of a wide clinical use. The theory of its action centers in the liberation of formaldehyd from the compound on treatment with acid. The object in giving hexamethylenamin is to administer formaldehyd.

Dr. Jordan[1] has reported experiments in England which bear on this question. He observed the growth of familiar bacteria in urine in which the reaction was experimentally modified. The degree of acidity of the urine is an all-important factor in the efficiency of urinary antiseptics. The antiseptic power does not pertain to urines of low acidity or to those which are alkaline. If a urine is normal or infected with an organism which does not produce alkaline fermentation, it can readily be made more acid by giving acid sodium phosphate, until the amount of formaldehyd produced from the hexamethylenamin in conjunction with this reaction is sufficient to inhibit completely the growth of any organism in the urine.

Unfortunately only a limited number of the conditions in which it is desired to accomplish such antisepsis are attended by the excretion of acid urines. Ammoniacal urines may prevail, as in cystitis. Investigation of other drugs which are mildly antiseptic, notably salicylic acid, the benzoates and sandalwood oil, indicates that the last alone promises successful application in those cases in which they are most needed, namely, with an alkaline urine. The chief treatment of such cases must probably for the present consist of local measures, with the possible employment of sandalwood oil by the mouth. For the benefit of our pharmacologic colleagues we may repeat one statement by Jordan: that the discovery of a substance which would, in alkaline urine, exert something approaching the antiseptic power of hexamethylenamin in acid urine would be an immense advance in therapeutics.

1. Jordan, A. R.: Urinary Antiseptics: An Experimental Investigation, Proc. Roy. Soc. Med., 1911, v, No. 2.

THE LAXATIVE ACTION OF EPSOM SALTS

It is a strange and striking fact in medical practice that some of our most widely used drugs and remedies having a long history of therapeutic usefulness have been surprisingly slow to receive an adequate explanation of their mode of action. This is especially true of such familiar agents as the purgatives and laxatives which form a part of the daily routine of treatment of every practitioner. With regard to the saline laxatives such as Epsom salts (magnesium sulphate) and Glauber's salts (sodium sulphate) the current theory of their efficacy rests on the assumption of their poor absorption from the alimentary canal. Inasmuch as salt solutions within the bowel tend to approach the molecular concentration of the blood-plasma, the presence within its lumen of salts which are absorbable with difficulty will tend to cause a retention of water along with them until the solution approaches a condition of isotonicity with the blood. Thus it happens that the contents of the large intestine become distinctly watery and stools of semifluid consistency ensue. The speedy emptying of the bowel is accordingly explained by the presence of an abundant partly liquid content therein.

Some years ago, however, J. B. MacCallum[1] ventured to revive a distinctly different explanation based on the supposed stimulating effect exerted on the peristaltic functions of the intestine by the saline cathartics. According to the one view the emptying of the bowel is associated with its distention by bulky semiliquid contents; the other theory postulates an irritant action of a salt like magnesium sulphate, for example, initiating increased movements through impulses to the motor elements.

These conflicting views have been contrasted repeatedly in recent literature.[2] The technic applied to solve the problem has been varied by the different investigators. Direct observations on the exposed intestine, *x*-ray examinations and experiments with excised loops of intestine have all contributed their evidence in the matter. The latest report, by De Heer, at the Pharmacologic Institute at Utrecht from which the excellent studies of Magnus have come, speaks against any specific stimulating effect of magnesium sulphate on intes-

1. MacCallum, J. B.: The Mechanism of the Physiologic Action of Cathartics, Univ. California Publications, Physiology, 1904, iii.
2. Meltzer, S. J., and Auer, J.: Physiologic and Pharmacologic Studies of Magnesium Salts, Am. Jour. Physiol., 1906, xvii, 313. Tyrode, M. V.: The Mode of Action of Some Purgative Salts, Arch. internat. de Pharmacodyn. et de Thérap., 1910, xx, Nos. 3-4.

tinal movement. The muscular response of isolated stretches of intestine suspended in solutions of various salts, including the cathartic Epsom salts, showed no preponderant influence of the magnesium sulphate over that of sodium chlorid of comparable concentration, in so far as muscular movement was concerned. The unique laxative property of certain of the salts presumably cannot be explained on the basis of any exceptional effect on peristalsis. For the present, therefore, Glauber's and Epsom salts may remain in the group of the saline purgatives which owe their efficiency to the difficulty which they present to the processes of absorption.

THE PUBLIC HEALTH SERVICE PERSONNEL BILL

We have frequently called attention to the legislation pending in Congress which has for its purpose the placing of the pay of the physicians of the Public Health Service more nearly on an equality with that of the other government medical services. Recently[1] we recounted the vicissitudes which this legislation has met during the last few years, how at different times it has been passed, in one form or another, by one house of congress, always, however, to be lost in the other house, or in conference. After its passage in the House of Representatives last year, with an overwhelming majority, it was prevented from coming to a vote in the Senate, although a large majority of the latter body was favorable to it; the only objection offered was that the measure contained provisions for enlarging the functions of the service, a feature which some stated might delay the establishment of a new Department of Health (although the measure contained neither of the distinctive features of the bills introduced for the latter purpose: a service independent of any existing department and the consolidation of certain bureaus).

At the recent meeting at Atlantic City the Committee on National Legislation presented a report (adopted by the House of Delegates) endorsing the present personnel bill providing it "be enacted in a form not calculated to prevent or delay the proper coordination and the independence of the public health work of the national government."

Notwithstanding the practical unanimity of opinion both in Congress and out of it, not only as to the justice but as to the necessity of this legislation—provided our only distinctly national public health service is to be maintained at its present degree of efficiency—difficulties are still being placed in the way of its passage. As was stated a few weeks ago the measure (S. 2117) has for the third time unanimously passed the Senate. It was brought up in the House of Representatives a short time ago under the "unanimous consent rule"; and the only objection raised to its passage was in relation to function, Messrs. Foster and Mann insisting that the bill should contain the same provisions for enlarging the functions of the service as were contained in the Mann bill, which passed the House last year—the very feature which caused the failure of the measure in the Senate.

Thus between those in the House who oppose increased pay without increased function, and those in the Senate who oppose increased pay with the only form of increased function which Congress has shown a willingness to grant, the Public Health and Marine-Hospital Service, with its splendid possibilities for further development, is being seriously hampered in carrying on its work—a work which is of most vital importance to the people of the whole country, and of which those who are interested in the nation's health may well feel proud.

1. THE JOURNAL A. M. A., April 13, 1912, p. 1119.

THE BACTERIAL CONTAMINATION OF BREAD

For a practically universal article of diet, bread seems to have received little attention from bacteriologists. Usually handled by several persons, often exposed to flies and street dust, sometimes tossed about under very uncleanly conditions, baker's bread is obviously liable to pick up dangerous bacterial contamination. If it is handled by a typhoid carrier it is possible for typhoid bacilli to be smeared on the outside of the loaf, and since bread as a rule is eaten without heating and very soon after it reaches the consumer, it may readily be the means of conveying infection.

Lumsden[1] in fact has traced cases of typhoid fever in the Government Hospital for the Insane at Washington, D. C., to the handling of bread by an attendant who had been caring for a typhoid patient at his home. Hinton[2] has recently described a similar occurrence in the Elgin State Hospital where seven cases of typhoid fever developed within a few months. These were all in patients using the general dining-room for females. On investigation it was found that a female attendant whose duty it was to slice all the bread used in this dining-room had had typhoid fever three years previously and was a carrier, discharging typhoid bacilli in the urine. On December 20 this attendant was transferred to another department where she did not handle uncooked food, and no further cases of typhoid fever occurred.

It is rarely possible to determine with such precision as in the cases cited the articles of uncooked food that probably served as the vehicle of infection, and we can hardly doubt that contaminated bread is responsible for scattered cases of typhoid more frequently than is recognized. For obvious reasons evidence is more difficult to secure than in the case of milk and water. It is worth noting that Kayser[3] in his observations on the occupational incidence of typhoid fever in Strasburg found a particularly high typhoid mortality among bakers, possibly due to their exposure to milk infection.

1. Lumsden: Bull. 78, Hyg. Lab. U. S. P. H. and M.-H. S., p. 165.
2. Hinton: Institution Quarterly, 1912, iii, 18.
3. Kayser: Münch. med Wchnschr., 1909, lvi, 1066.

In view of such observations as those cited, a recent paper on the bacterial contamination of bread[4] is a timely contribution. The writer shows that under some conditions the bacterial smearing of loaves of bread may be very considerable, reaching, in the case of unwrapped loaves kept under uncleanly conditions, hundreds of thousands of germs. Out of a hundred loaves purchased from as many different shops in the city of Chicago, 14 per cent. were each coated with more than ten thousand bacteria. As might be expected, loaves obtained from clean shops, where all the surroundings are favorable, have not nearly so many germs clinging to them as loaves kept under generally dirty conditions. The difference between the bacterial coating of wrapped and unwrapped bread is particularly suggestive. In no case did the bacterial contamination of wrapped bread reach a high figure. None was smeared with as many as ten thousand bacteria and 85 per cent. had less than a thousand. On the other hand, more than half of the unwrapped loaves (62 per cent.) were coated with over a thousand bacteria. Eleven wrapped loaves obtained from clean shops bore on the average only 371 bacteria each.

It is said to be difficult to obtain a sale for wrapped loaves in certain city districts, where the prospective purchasers insist on testing the quality of the bread by pinching the loaf with thumb and finger! In the article referred to it is shown that seventeen out of eighty unwrapped loaves yielded gas-producing bacilli, typical *B. coli* being present in three cases, while in twenty wrapped samples no gas-producing organisms were found. Unpleasant possibilities are suggested by such findings. Is it not worth while to take some pains to prevent the contamination of bread with intestinal bacteria?

MEDICAL EDUCATION IN EUROPE

The Carnegie Foundation for the Advancement of Teaching has just issued its second bulletin on medical education,[1] this time dealing with conditions found in Europe. This report, similar to the one issued two years ago, is based on investigations made by Mr. Abraham Flexner for the foundation. The report confirms the statements made by the Council on Medical Education four years ago,[2] that the medical schools in this country are backward not only in the matter of preliminary education but also in the length of the medical course. It also supports the Council's statement that this is the only civilized country which does not require of every medical student a preliminary education in physics, chemistry and biology either prior to or at the beginning of the medical course.

In the introduction to the report, President Pritchett emphasizes several facts which are of extreme importance. In the first place, no other country was found to have conditions so bad as those found in the United States, or as President Pritchett expresses it, "scandals in medical education exist in America alone." Again, "no medical school that lacks proper facilities has any other motive than the selfish advantage of those that carry it on; and no civilized country except America at this day allows such enterprises to impose on the public." Another point which is distinctly brought out in this report is the close relationship existing between the hospitals of Europe and the medical schools—a marked contrast to conditions in America. Well-trained young physicians in Germany find no difficulty in attaching themselves to the retinue of hospital staff physicians and surgeons and thus procuring for themselves active, scientific work, while in America this is practically impossible. In support of a statement so frequently repeated of late by those striving for higher educational standards in this country, President Pritchett says that no hospital can suffer by giving teaching privileges to a rightly conducted university medical school. The report shows that in Europe the trustees of hospitals freely open their wards to students and that the hospitals realize that such relationship is advantageous not only to medical science but also to the patients in the hospitals.

The report again furnishes a definite reply to the worn-out argument that cheap schools are needed to furnish doctors for sparsely settled districts of the country. It is stated that no physician, whether he be poorly equipped or well equipped, will seek a location where a livelihood cannot be gained. On the other hand, it was shown that well-educated physicians will often prefer the sparsely settled districts if the means of a livelihood are to be obtained there. In other words, the experience of Germany shows that the distribution of physicians does not depend on a low standard of education. The report brings out the fact also that sectarian medicine is practically unknown in Europe and that this is the only country in which educational institutions professing to teach sectarian medicine are to be found.

President Pritchett concludes his introduction to the report with the plea not only for the giving of larger sums to medical education in this country but also for the use of a proper discrimination in such giving. He shows that the problem in America will be more quickly solved if donations are given to the medical schools which deserve to exist and not to the undeserving. In contrast with conditions in this country, it is shown that in Germany all medical schools are supported by the government, with the result that in that country medical training, medical laboratories and teaching facilities in all the medical schools are on a uniformly high plane.

The report has apparently been widely circulated and already much attention has been given to it by the newspapers of the country. This is as it should be. Although there are those who deplore the publicity being given to the shortcomings of medical education in this country,

4. Howell, Katharine: Am. Jour. Pub. Health, 1912, ii, 321.

1. Flexner, Abraham: Medical Education in Europe, Bull. No. 6, Carnegie Foundation, 576 Fifth Avenue, New York.

2. American Medical Association Bulletin, May 15, 1908, p. 234; THE JOURNAL A. M. A., Aug. 20, 1910, p. 680.

nevertheless it is that very publicity which will the sooner bring about a removal of the disgrace and the establishment of better conditions.

This report on medical education abroad comes at a very opportune time. We are already in the midst of a rapid development of medical education and this report, based on the investigation of European medical schools, made at first hand, will be a great help in the solution of many of our problems. Although, by contrast with medical education abroad, many defects are seen in conditions in this country, the many improvements already brought about leave no ground for discouragement. It must not be forgotten that although the determined movement for better medical education in this country began only about eight years ago, astonishing progress has been made since that time. Our vast oversupply of inferior medical schools is rapidly being reduced. Where there were 166 medical schools in the United States in 1904 — nearly half of the world's supply — now there are only 118. On the other hand, the number of colleges which have high standards for admission and which are equipped to do good work is rapidly increasing. Instead of only three in 1904 there are now forty-six which are requiring one or more years of collegiate work for admission. Again, state licensing boards are rapidly improving their standards and strengthening their examinations, which is helping to solve the problem. From present indications, therefore, it will need only a few more years to bring the majority of our medical schools both in their requirements of preliminary education and in the quality of their teaching up to a point that will compare quite favorably with the standards upheld in other civilized countries.

KEEPING TRACK OF COMMUNICABLE DISEASES

At the tenth annual conference of the state and territorial health authorities with the Public Health and Marine-Hospital Service recently held in Washington, a resolution[1] was adopted which, if carried out, should become an important factor in the future development of public health work in the United States. The object of the action taken is to develop a plan by which the state health authorities can keep currently informed of the prevalence and geographic distribution of communicable diseases throughout the country as a whole, and by which they can also be promptly notified of the occurrence of epidemics in states other than their own. In these days of rapid transit in which the railroad has made as close neighbors of the Atlantic and Pacific coast states as were New York and Pennsylvania a century ago, every state should for its proper protection have knowledge of the sanitary conditions in other states, and as to the communicable diseases every state is certainly entitled to full information regarding their prevalence in every other state.

1. The resolution, together with other action of the conference, will be found in Pub. Health Rep., June 7, 1912, p. 895

The resolution asks the health departments of the several states to report by telegraph to the Public Health Service whenever cases of cholera, yellow fever, typhus fever, plague or Rocky Mountain spotted or tick fever occur within their respective jurisdictions. The Service is then to notify all the states of the occurrence of such cases and where necessary measures can be taken to control the disease and prevent its spread into uninfected territory. The health departments are also asked to make a monthly report of all the diseases that are notifiable in their respective states. These will be published in the *Public Health Reports* and in this manner reach all health authorities without delay. The effect will be that the health departments of the states will make the Public Health Service Bureau through the medium of the *Public Health Reports* a clearing-house for current information of the prevalence of the communicable diseases. The advantage of such a plan is apparent when it is considered that by far the larger part of public health work consists in the control of these diseases, and that the first essential for the control or prevention of any disease is a knowledge of where and how frequently it occurs.

At the present time there are, unfortunately, a considerable number of states that will be unable to furnish the reports above outlined, either because the diseases are not notifiable within these states, or because the laws and regulations regarding their notification are not enforced. It may properly be assumed, however, that the advantages to be gained by the carrying on of this work, as well as the futility of attempting to do public health work without a knowledge of the distribution and prevalence of disease, will be so evident that all states not now so provided will make the necessary effort to secure the notification of at least the more common communicable diseases.

While the action taken by the conference is with a view to the necessity to state health authorities of information regarding the occurrence of disease in territory associated geographically or by intercourse, such information must have its source in the notification of cases locally by the practicing physician. To the local health officer having immediate jurisdiction, these reports are a sine qua non to efficient work, and practicing physicians for this reason are an essential factor in preventive medicine and necessarily constitute the picket-line from which the community, the state and the nation must receive their information regarding the occurrence of disease.

Current Comment

POPULAR PAMPHLETS ON HEALTH TOPICS

The necessity of giving people information on the questions relating to health and prevention of disease has evidently been accepted by the various organizations working for the public good. The practical and concrete

character of most of the material for public distribution is noticeable and commendable. Two excellent examples have recently been issued. One, "What Children Should Eat," is issued in the cause of child welfare. It is an attractively arranged and well-printed little pamphlet of twenty-four pages, containing information for the mother or nurse on "Why Children Should Eat," "How Children Should Eat," "What Children Should Eat," "What Children Should Not Eat," "When Children Should Eat" and "How Much Children Should Eat." It also contains chapters on "How to Choose Food for Children," "How to Prepare Food for Children," "How to Prepare Food for Illness," "What Food Children Should Eat When Ill," "What Food is Needed in Special Diseases," etc. The paragraphs are short and concise and the directions are easily understood. Another is an artistic pamphlet entitled "The Child," printed and distributed by the Metropolitan Life-Insurance Company for the use of its policy-holders. It contains chapters on "The Home," "Preparing for the Baby," "The Baby Up to One Year," "The Run-About Baby," "The Child of School Age," "The Sick Child" and a final chapter on "Emergencies." The preparation and distribution of these two pamphlets, and of similar educational material is most commendable. The present tendency toward wider knowledge on health matters cannot fail to produce a marked effect in a few years.

AN APPROPRIATE APPELLATION SUGGESTED

This suggestion comes from the *Oregonian* of Portland, Ore.: "A marked copy of *Medical Freedom* which has been received at this office seems to justify the rumor that the cause it stands for is financed by quack doctors and patent-medicine fakers. The 'League for Medical Freedom' opposes the establishment of a national board of health. It fights vaccination. Some of its leaders oppose antiseptic surgery. In view of these facts, we suggest a slight change to make its name more consonant with its objects. Why not call it the 'League for the Propagation of Death?'"

PULLING TOGETHER IN KANSAS

The Kansas State Board of Health and the College of Medicine of the University of Kansas held a summer school at the university, from June 10 to 15, for physicians and health officers. The program for the first day included demonstrations in the technic of water examination, lectures on water-borne diseases, sources of water supply and water purification. The second day's program contained a two-hour period on laboratory diagnosis of epidemic meningitis followed by lectures and demonstrations. The third day was devoted to a study of disinfection, ventilation and drug adulterations, and the fourth to laboratory technic on food adulteration and antitoxins, serums and vaccines. Saturday was given up entirely to clinics. The time allowed for this work permitted only the most general instruction, but even this is of value. Kansas has set a splendid example to her sister states in close cooperation between the state health authorities and the state university. The day has passed for standing aloof or for arguments over jurisdiction and authority. The spirit of the times is that of cooperation and mutual helpfulness. All the state agencies should work for the common good, and there is no work of greater importance than that for public health. If our state boards of health, state medical societies, state universities and educational institutions everywhere could be induced to cooperate in the education of the public in sanitary matters, the results would redound to the credit of all concerned and would be especially marked in improved health conditions.

POLISHED RICE, BERIBERI AND THE NERVOUS SYSTEM

Some time ago we referred to the interesting experimental production of polyneuritis in pigeons by feeding them a diet largely composed of polished rice; and we compared this condition to the problems associated with the etiology of beriberi in man. The small amount of substance derived from the polishings which is sufficient to cure affected animals has suggested that the effective material may act as a hormone.[1] On the other hand, the severity of nervous symptoms in beriberi and the increased excretion of both nitrogen and phosphorus in the urine of beriberi patients have made it seem probable that the symptoms may be due to a destruction of lipoids in the body, especially in the nervous tissues, which are particularly rich in phosphorized nitrogenous compounds. Dr. Casimir Funk of the Lister Institute of Preventive Medicine in London has lately concluded that there may be some breakdown of the lipoid substances in the brain. The analysis of brains of birds subjected to a diet of polished rice shows a sensible diminution from the normal of nitrogen and phosphorus content,[2] perhaps due to the lack of a substance essential for the normal metabolism of the nervous tissues. The lipoids of the medullary sheath within and without the central nervous system are more or less disintegrated. Underfeeding alone does not produce these consequences. It is interesting to know that cures could be effected, not only by the use of rice-polishings, but also by lipoid fractions from milk or yeast and by lime-juice. These facts at once suggest other related therapeutic questions.

THE PROVISIONAL PROGRAM OF THE CONGRESS ON HYGIENE AND DEMOGRAPHY

The provisional program of the coming International Congress on Hygiene and Demography to convene in Washington next September, recently issued, is a pamphlet of 100 pages, printed in French, English and German, and contains, in addition to the program of papers and addresses, a list of the officers and the committees of the various states and countries. The program in the two divisions of hygiene and demography contains papers by distinguished men from all parts of the world, covering in a most comprehensive way the progress of these two departments of sanitary science. In the few days in which the congress is to continue, of course it would be impossible for any individual to hear

1. Schaumann: Tr. Soc. Trop. Med., 1911, v, 59.
2. Funk, C.: The Effect of a Diet of Polished Rice on the Nitrogen and Phosphorus of the Brain, Jour. Physiol., 1912, xliv, 50.

more than a small fraction of the papers, addresses and discussions; but the printed transactions of the congress will constitute a most comprehensive and valuable source of information concerning all aspects of domestic, municipal and national sanitation. Hence these transactions will be well worth the cost of membership—five dollars. Occurring at the seat of our government, the proceedings of the congress may open the eyes of some of the benighted congressmen who oppose the establishment of a national department of public health. With the eyes of the world focused on this meeting, these men may realize the tremendous importance of national and international health questions and the necessity of establishing adequate administrative machinery for carrying out the measures which sanitary science has determined are absolutely necessary for the improvement and preservation of public health.

EXAGGERATED REPORTS OF MULTIPLE BIRTHS

Occasional newspaper reports of the birth of triplets or even of quadruplets attract a great deal of attention. In many cases the reports are exaggerated or wholly untrue. Recently a paper in Indiana reported the birth of a quintette of children to a farmer's wife, 30 years old. It was stated that the children were perfectly formed and that the mother had two years previously given birth to triplets. The family in question was greatly annoyed by the receipt of numerous inquiries and letters from curious people concerning the unusual occurrence. Inquiry made by us of a local physician proved that no such multiple birth had occurred. Such cases, if authenticated, would be of considerable medical interest; but investigation usually proves the reports to be without foundation.

TWO PICTURES—A CONTRAST

In the news columns of THE JOURNAL, June 15, appeared an item regarding health conditions in Guayaquil, Ecuador, which has acquired the unenviable title of "the pesthole of the Pacific." According to the Public Health Reports for June 7, in the five months from Jan. 1, 1912, to June 1, 1912, Guayaquil has had 147 cases of yellow fever and 124 cases of bubonic plague. A recent number of a local medical journal contains a report by the physician in charge of the isolation hospital, of 300 yellow fever patients whom he has recently attended. On the day the above item appeared in THE JOURNAL, the report of the Department of Sanitation of the Isthmian Canal Commission for April, 1912, was received. This report shows that during April among 12,824 white employees, there were four deaths from disease and five from accident; that there were on the Canal Zone in April, 11,846 American men, women and children; that only two deaths occurred in April among this entire number, one a man of 60, who was killed by a machine accident, and one an infant of 6 months, who died of malarial fever. This is equivalent to a total annual death-rate, for nearly 12,000 people, of only 2.02 per thousand, or a total disease death-rate of only 1.01 per thousand. The report closes with the stereotyped sentence which has been repeated so often that its presence is hardly noted: "No cases of yellow fever, small-pox or plague reported on or were brought to the Isthmus during the month." What is the difference between the "pesthole of the Pacific," with its 147 cases of yellow fever and 124 cases of bubonic plague in five months, and the Canal Zone, with only a single death from disease among nearly 12,000 persons in a month? In Guayaquil, as in most cities, epidemics are regarded as unavoidable and disease as beyond the control of man. In the Canal Zone, formerly as noted for its enormous death-rate as Guayaquil is to-day, an enlightened and progressive administration is using all of the modern, scientific knowledge available for the prevention of disease and the protection of human life. In Guayaquil, medieval ignorance and death. In the Canal Zone, scientific knowledge and safety. Every American city and community can have its choice. Which one will your city take?

SIMPLER PHRASEOLOGY

It is with rejoicing that one notes the tendency toward simpler language and phraseology in recent scientific literature. It is to be regretted that some of the texts and treatises on medical and surgical subjects show a less noticeable degree of improvement than do scientific periodicals and research publications. Probably there was a time when the use of cumbersome and sonorous phrases lent a sort of dignity to medical literature, particularly in the estimation of the general public. Recently, however, many writers are acting on the theory that no need exists for borrowing dignity from so doubtful a source, and that the simpler the language, the more accurately and readily it will convey the intended meaning. Some medical authors find occasions when "cause" expresses their meaning as well as "etiological factor," and when it is as easy to have the patient "lie down" as to make him "assume a recumbent posture." We welcome the time when any work which defines a fracture as "a traumatic or pathological solution of the continuity of osseous structure," or abounds in verbiage equally atrocious, will be preserved and read only as a curiosity.

Medical News

ALABAMA

New Hospital for Antituberculosis Camp.—An eleventh cottage for white patients is in course of construction at the camp of the Montgomery Antituberculosis League. The cottage was donated by the heirs of Dr. and Mrs. Jackson, and will be known as the Jackson Memorial Cottage.

New City Hospital for Mobile.—The city council of Mobile has undertaken to renovate and enlarge the City Hospital. Three new wards will be added and the old building will be remodeled throughout. Accommodation will be provided for two hundred patients and special provisions will be made for communicable diseases and for patients suffering from acute mental and nervous diseases. The medical direction of the hospital is to be in charge of the faculty of the University of Alabama and the patients will be available for clinical teaching.

ARIZONA

New Medical Board Officers.—At the meeting for organization of the Arizona Board of Medical Examiners, Dr. Wm. A. Holt, Globe, was elected president; Dr. R. M. Tafel, Phoenix, vice-president, and Dr. John Wix Thomas, Phoenix, secretary-treasurer.

Personal.—The Pennsylvania Society of Arizona tendered a farewell reception to Dr. Ferdinand Gicler Angeny and family, Phoenix, May 25.——Dr. Ancil J. Martin, Phoenix, has been elected president and Dr. John Dennett, Jr., Phoenix, vice-president, of the Maricopa County Board of Trade.

ARKANSAS

Health of Children.—Dr. C. W. Garrison, Little Rock, director of sanitation and his field staff consisting of Drs. T. B. Bradford, T. M. Fly and E. A. Campbell are making an effort to visit all schools in the city and confer with the health committees and teachers regarding sanitation with special reference to the establishment of sanitary toilets to prevent the spread of typhoid fever, hookworm disease, etc.——Dr. O. K. Judd, formerly city physician of Little Rock, has been appointed health officer.——Dr. Verne R. Stover, Little Rock, has been appointed superintendent of the city hospital and Drs. E. E. Hodges and A. K. Wayman have been appointed district physicians.——Dr. W. T. Lowe, Pine Bluff, has been elected vice-president of the Jefferson Anti-Tuberculosis Society.

ILLINOIS

Chicago

Rovsing in Chicago.—Prof. Dr. Thorkild Rovsing, Copenhagen, president of the Danish Surgical Society, paid a visit to Chicago on his way to Rochester, Minn., June 26, and was entertained by the local profession and the Danish-American Association.

State Takes Over Dunning.—On June 29, the Cook County Institutions, Dunning, was formally transferred from Cook County to the State of Illinois. The superintendent, Dr. Stephen R. Pietrowicz, has agreed to remain until his successor has been appointed.

INDIANA

State Districted for International Congress.—The state has been divided into five districts in order to secure exhibition and arouse interest in the International Congress of Hygiene and Demography to be held in Washington this fall. The districts have been placed in charge of the following chairmen: First district, Dr. H. H. Sutton, Aurora; second district, Dr. James Morrison, Hartsville; third district, Dr. S. Edgar Bond, Richmond; fourth district, Dr. James Boyers, Decatur, and fifth district, Dr. J. B. Berteling, South Bend.

IOWA

Des Moines Valley Physicians Meet.—At the forty-first annual meeting of the Des Moines Valley Medical Association, held in Ottumwa, June 20, the following officers were elected: president, Dr. J. N. Osborn, Des Moines; vice presidents, Drs. C. A. Henry, Farson, and E. B. Howell, Ottumwa, and secretary-treasurer, Dr. F. W. Bowles, Ottumwa (reelected).

MARYLAND

School for Feeble-Minded Opened.—The new building of the Maryland Asylum and Training School for the Feeble-Minded at Rosewood, near Owings Mills, was inspected and opened, June 28. The building is a stone edifice and one of three which have been erected at the cost of $75,000. It contains appliances for teaching manual training, several school rooms and an assembly hall seating 500 persons.

Baltimore

Personal.—Dr. Hugh H. Young, president of the Medical and Chirurgical Faculty of Maryland and Dr. C. R. Ahroon have sailed for Europe.——Dr. Haughton Baxley is reported to be seriously ill with erysipelas.——The University of Michigan has conferred the degree of Doctor of Science on Dr. John J. Abel and that of Doctor of Laws on Dr. William H. Howell. ——Dr. Joseph Bloodgood was operated on for appendicitis, June 27.——Dr. Howard A. Kelly gave a dinner, June 20, to a number who are interested in wiping out the social evil in the city. Plans were made whereby reforms are to be made in the Western Police District.

MASSACHUSETTS

Appendicitis Hospital.—A hospital devoted exclusively to the treatment of appendicitis is to be opened in Boston in October. A site has been donated on Beacon Street together with a building sufficiently large for the care of both ward and private patients.

Psychopathic Hospital Opens.—The Psychopathic Hospital, Fenwood Road, Brookline, was opened for public inspection, June 21, and received its first patients two days later. The institution is under the charge of Dr. Henry P. Frost, superintendent of the Boston State Hospital and Dr. L. Marie Suthord, pathologist to the State Board of Insanity, is director; and Dr. Stephen E. Vosburg is executive head of the institution. The hospital contains 102 beds and is divided into two departments, the first accommodating acute and excitable cases and cases for first observation, and the other containing two wards where border-line cases which require observation and quiet, will be treated. The primary object of the hospital is the early treatment and investigation of the insane.

MICHIGAN

Societies Approve Owen Bill.—The Oakland County Medical Society at its June meeting unanimously endorsed the provisions of the Owen bill and criticized Senator Townsend for his opposition.——Ionia County Medical Society at its meeting, June 27, adopted resolutions asking the congressman and senator from the district to endorse the Owen bill.

NEW YORK

Guard Against Tetanus Infection.—The State Department of Health has again sent out its warning against tetanus infection. It urges all health officers in the state to get a supply of tetanus antitoxin. This is furnished free. In this state during 1911 there were about 100 deaths from tetanus as the result of Fourth of July celebrations.

The Records of Matteawan.—Dr. James V. May, medical superintendent of the Matteawan State Hospital, in the last annual report of that institution, states that of twenty-six inmates who were examined for their sanity, and obtained writs of habeas corpus during the year, four were indicted for murder, seven for assault, and one for manslaughter. Several of these showed unmistakable evidences of insanity, while others had committed criminal acts since their release. Twenty-four of those released were diagnosed as unrecovered by the hospital authorities. Dr. May concludes that a determination of the mental condition of a patient by habeas corpus proceedings is highly unsatisfactory.

New York City

Suspected Cholera on Liner.—The Hamburg-American steamer *Hamburg* which arrived on June 18 from Mediterranean ports was detained at quarantine because of a death of one of the steerage passengers which the ship's surgeon believed to be due to cholera. All of the steerage passengers are being detained until cultures of specimens retained by the surgeon have been made.

Policemen to Fight Flies.—A squad of policemen are to be assigned to the Health Department to assist in making war on the fly. It is a violation of the sanitary code to leave a garbage can uncovered and the policemen are to see that this section of the code is obeyed; if it is too frequently disobeyed arrests are to be made. It is pointed out very emphatically that the cooperation of the public is desired in fighting the fly nuisance.

Guarding Against Bubonic Plague.—After a conference with Surgeon General Blue of the United States Public Health and Marine-Hospital Service and his advisory board, Dr. Joseph O'Connell, health officer of the port of New York, has issued an order compelling all vessels entering the port to show certificates that their holds have been fumigated before lading in the last port of departure for the purpose of exterminating plague infected rats and vermin. This order is to apply to vessels coming from all South American ports, Trinidad, Africa, Asia and European Turkey.

Series of Health Articles.—The Department of Health has begun the publication of a series of paper-covered books. Each book is to consider one disease and to show what the Health Department has done to lessen or abolish it. The first book is on pulmonary tuberculosis and makes a strong personal appeal demonstrating that every one has a personal interest and responsibility in this subject. The book not only gives rules for the care of those suffering from the disease, but considers the subject of prevention and brings the factor of dust and the responsibility of housekeepers to the front.

NORTH CAROLINA

New Officers of State Society.—The fifty-ninth annual meeting of the Medical Society of the State of North Carolina was held in Hendersonville, June 18-20 with more than 300 members in attendance. Governor W. W. Kitchen was present at the meeting of the public health section and addressed the association on the "Importance of Public Health." The report of the secretary-treasurer showed a membership of a little

more than 1,200 and the balance in the treasury of more than $1,600, and the House of Delegates seemed averse to modifying a constitution under which the society has been so prosperous. A committee consisting of Drs. J. Howell Way, Waynesville, Lewis and Henry T. Bahnson, Winston-Salem, was appointed to have painted and presented to the State Library a portrait of the late Dr. P. L. Murphy, a noted alienist of the state and superintendent of the State Hospital for the Insane, Morgantown, for twenty-eight years. The entertainments of the session included a smoker, the annual banquet, automobile rides and a number of private receptions, luncheons and dinners. Morehead City was selected as the place and the third Tuesday in June as the date of meeting. The following officers were elected: president, Dr. John P. Munroe, Charlotte; vice-presidents, Drs. F. R. Harris, Henderson, E. S. Bullock, Wilmington, and L. B. Morse, Hendersonville; secretary (for 3 years), Dr. John Ferrell, Raleigh; treasurer (for 3 years), Dr. H. D. Walker, Elizabeth City; orator, Dr. H. D. Stewart, Monroe; essayist, Dr. John T. Buerrus, High Point; delegates to the American Medical Association, Drs. J. Howell Way, Waynesville, Hubert G. Royster, Raleigh, and alternates, Drs. W. L. Dunn, Asheville and R. D. Jones, Newbern.

OHIO

Tuberculosis Hospital Approved.—Formal approval has been given by the State Board of Charities and the State Board of Health for the erection of a bi-county tuberculosis hospital for Montgomery and Preble counties, near Dayton. The site is to cost $8,750 and the cost of the buildings will probably be about $100,000.

New Hospital Opened.—The Samaritan Hospital, Ashland, which was given to the county by J. L. Clark of that city, was formally presented to the county, May 28. The building is three stories high and on the first floor are six private rooms for patients, two wards, six private rooms, a children's department and a maternity ward on the second floor. The third floor is chiefly devoted to living rooms for nurses.

PENNSYLVANIA

Hospital Addition Completed.—The addition to the Bloomsburg Hospital is now completed and ready for occupancy, and patients have been moved from the old into the new building.

Hydro-Therapy Buildings to be Erected.—The trustees of the State Hospital for the Insane, Norristown, have planned two hydro-therapy buildings which will cost $10,000 and an administration building to cost $20,000.

Dr. Donaldson Dead.—Notice has been received of the death, on June 29, of Dr. John Boyce Donaldson, Canonsburg, late president of the Medical Society of the State of Pennsylvania; for many years secretary of the Washington County Medical Society; prominent in the work of medical organization in the state, and editor of the pioneer county medical society bulletin, the *Medical Program of the Medical Organization of Washington County, Pa.* A more complete obituary notice will appear in THE JOURNAL, July 13.

Philadelphia

Personal.—Dr. Charles A. O'Reilly will sail for Europe, July 9.——Dr. James M. Anders was slightly injured in a collision between his automobile and a trolley car near the Jewish Hospital, June 23.——Dr. Abraham Bowker, physician at the Moyamensing prison, was painfully injured by one of the pedals of his motorcycle, June 23, and was obliged to go to St. Agnes Hospital for treatment.

Women's Medical Alumnæ Meeting.—The annual two days session of the Alumnæ Association of the Women's Medical College of Pennsylvania was held in the college buildings, May 31 and June 1. Dr. Eleanor C. Jones was reelected president for the ensuing year; $12,000 was pledged for the endowment fund. A fellowship of $500 was given to Dr. Berta M. Meine for research work in pathology, the amount being raised during the past session of college.

Ship Brought Small-Pox.—The health bureau has been tracing immigrant passengers who came here on the steamship *Haverford*, June 4, with a view to preventing the spread of small-pox, brought to this port by the liner. Seven cases have been traced to the *Haverford*, all of them in widely separated parts of the city. On June 20, 1,900 persons were vaccinated in a residential and factory district in the northwest section. Discovery of a case at the Falls of Schuylkill led to the vaccination of 2,300 people and to the quarantining of eight blocks on June 21; twenty-eight families in Wissinoming were quarantined. Every person who arrived on the *Haverford* will be kept under observation by the medical inspectors.

RHODE ISLAND

State Society Meeting.—The one-hundredth annual meeting of the Rhode Island Medical Society was held in Providence, June 12-13, under the presidency of Dr. F. T. Rogers, Providence. After the dedicatory exercises of the Rhode Island Medical Library, the new quarters of the society, which has been described in another part of this issue, a reception to invited guests was held. On the second day the following officers were elected: president, Dr. Alexander B. Briggs, Ashaway; vice-presidents, Drs. John W. Keefe, Providence and Stephen A. Welch; secretary, Dr. Jay Perkins, Providence; treasurer, Dr. Winthrop A. Risk, Providence, and curator, Dr. W. J. McCow, Providence. The Cable Fiske prize of $250 was given to Dr. Allen G. Rice for his essay on "Medical Inspection of Schools." A $1,500 fund donated by Ruth Ely and Dr. F. Ely in memory of the late Dr. J. W. C. Ely, was accepted with a vote of thanks. It will be designated as the J. W. C. Ely fund and will be used for the purchase of medical periodicals for the library. The entertainments for the delegates and guests included an outing at Rocky Point, a yacht trip on June 12 with a shore dinner, a luncheon to the visiting ladies on the second day and the annual banquet of the society in the evening, over which Dr. John Champlin presided as toastmaster and at which addresses were made by S. H. Davis, Esq., on "Expert Testimony," Rev. Willard Scott on "Pills," and Hon. George H. Utter on "The Owen Bill."

TENNESSEE

Honor Dr. Witherspoon.—The Academy of Medicine and the Board of Trade of Nashville gave a dinner in honor of Dr. John A. Witherspoon, president-elect of the American Medical Association, at the Hotel Hermitage, Nashville, July 3.

Medical Board Officers Reelected.—The annual meeting of the State Board of Medical Examiners at Nashville, June 5. Dr. E. E. Hunter, Elizabethtown, was reelected president; Dr. W. H. Halbert, Nashville, vice-president, and Dr. C. A. Abernathy, Pulaski, secretary-treasurer.

TEXAS

Tuberculosis Colony Opened.—The State Tuberculosis Sanatorium and Colony, Carlsbad, which have been established at a cost of $70,000, were formally dedicated, June 27.

Personal.—Dr. Samuel Webb, Waco, has been appointed assistant chief surgeon of the Missouri, Kansas and Texas railroad in charge of all patients in the state. He will probably have his headquarters at Dallas.——Dr. J. H. Traylor has been appointed health officer of Cuero.——Dr. Ray McCombs, Pearsall, was seriously injured in an automobile accident near Hempstead, N. Y., June 20.——Dr. John S. Turner, Dallas, the newly-elected president of the State Medical Society of Texas, was the guest of honor at a banquet in Dallas, June 14.——Dr. T. K. Proctor, San Angelo, has been appointed secretary of the Fourth District Medical Association, vice Dr. J. E. Robinson, removed from jurisdiction.——Dr. R. J. Gauldin, Dallas, has gone abroad.——Dr. J. R. Smith, Mundy, was attacked by a tenant with a knife, June 6, and seriously injured.——Dr. Charles M. Hendricks, El Paso, has returned from Europe.——Dr. Bascom Lynn, San Angelo, has been appointed superintendent of the State Tuberculosis Sanatorium and Colony, Carlsbad.——Dr. J. H. Reuss, Cuero, has been appointed medical director of the San Angelo and Aransas Pass, vice Dr. Amos Groves, deceased.

GENERAL

Knapp Testimonial Fund.—The bound transactions of the Section on Ophthalmology and the Ophthalmic Year-Book are to be furnished to all contributors of $5 or more to the Knapp Testimonial Fund, as set forth in the minutes of the Section printed in THE JOURNAL June 22, page 1998. Dr. A. E. Bulson, Jr., Fort Wayne, Ind., treasurer of the fund, desires that all subscriptions be in before Aug. 1, 1912.

American Heads Leper Republic.—The first president of the first leper republic in the world is an American named Michael Whallen, who is said to be the only American leper on the island of Culion, P. I., and, who, on June 18, was elected chief executive of the republic which the government has organized to manage the affairs of the colony.

Booklet on the Home of the Association.—The description of the new building of the American Medical Association, which was published in THE JOURNAL some months ago with illustrations, has been issued in handsome pamphlet form. Copies of this can be had by visitors at the Association building, or a copy will be sent to any member or subscriber on a written request. Ask for "The Home of the Association."

The Plague Situation in Porto Rico.—Surgeon Grubbs, U. S. P. H. & M.-H. Service, on duty at San Juan, Porto Rico, reports regarding the plague situation that rat examinations indicate that a mile of the water front is infected. Measures are being taken to limit the infection to the island of the old city. The worst houses of the infected area are being destroyed after first being surrounded by a wire fence. Systematic catching and laboratory work of rats and daily house inspections are being carried on. Observation and detention camps have been provided. Three deaths have occurred in the suburbs and Dr. Grubbs advises the catching and detention of rats there.

FOREIGN

Honors for Professor Dor.—The friends, the pupils and ophthalmologists of many countries united recently in celebrating the seventy-seventh birthday of Professor Henri Dor, by presenting him with a portrait medal. The reverse of the medal typifies Dor's life-work, as it represents Science pushing back the clouds that the light can fall on the child beside it. The background shows Dor's home on the banks of the Rhone at Lyons where he has been professor of ophthalmology since 1876. He was a pupil of both Graefe and Donders, and founded thirty years ago the *Revue Générale d'Ophthalmologie*. He is at home in seven or eight living languages and several dead ones, but, despairing of acquiring all the five hundred European dialects, compromised recently on Esperanto which he soon mastered and was elected president of the Esperanto federation, two of the addresses being made in the new language.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, June 15, 1912.

$10,000 Damages for Libel Obtained Against the British Medical Journal and Dr. Bashford, Director of the Imperial Cancer Research

Surprise and indignation are generally felt in the profession at a verdict for $10,000 damages against the British Medical Association and Dr. E. F. Bashford, Director of the Imperial Cancer Research Fund Laboratories. The action was brought by Dr. Robert Bell, formerly physician of the Woman's Hospital, Glasgow, who has abandoned orthodox practice in regard to cancer, and by his writing, has come prominently before the public as an exponent of views on the pathology and treatment of cancer which cannot be taken seriously. His theory is that cancer is essentially a disease of the blood and is due to impurities in it which are the result of the ordinary diet, and particularly of cooked food. He asserts that by a diet consisting of cheese, milk, uncooked vegetables, nuts, etc., by securing an evacution of the bowels once a day and plenty of fresh air the disease may be prevented and that, but with less success, it may be treated by the same means. In the *British Medical Journal*, May 27, 1911, appeared an article headed "Cancer, Credulity and Quackery," by Dr. E. F. Bashford. He stated that there was an astonishing amount of credulity on the part of the public toward cancer cures and, what is much more serious, "A few members of the medical profession screen or countenance the rankest forms of quackery. To-day, in London and elsewhere throughout the country, members of the profession, practicing as cancer curers, knowingly and deliberately trade on the anxieties and credulity of the public." He then went on to quote from a lecture delivered by Sir Spencer Wells in 1857, two stories of cancer quacks, one of whom killed his patient by destroying the coats of a large artery with caustic, while the other was so ignorant that he did not know the signs of life and was found applying a poultice to the breast of a dead woman. He quoted from a booklet by Dr. Bell the following: "Consider the various effects of a contaminated blood-stream on the epithelial cell, the culminating point of the pollution resulting in cancer. It is of no more avail to excise the local manifestation of blood contamination which cancer undoubtedly is than to cut out a piece of dry rot in a ham without adopting means to remove the cause of the mischief." "This," commented Dr. Bashford, "is avowedly intended to divert the cancer sufferer from the assistance of surgery." He went on to describe Dr. Bell as the modern representative of the quacks described by Sir Spencer Wells. In an editorial in the same number of the *British Medical Journal*, entitled "Quackery and the Medical Profession," Dr. Bashford's paper is described as "the most damning exposure of the vilest and most cruel form of quackery that has appeared since Spencer Wells' 'Cancer and Cancer-Curers.'" For the plaintiff, several doctors of no eminence whatever, who held similar erratic and unfounded views, were called. For the defense Sir Felix Semon, who has had a large experience in operating for cancer, was called. He had operated in twenty-five cases of cancer of the larynx in which the diagnosis was proved beyond doubt by examination of the tissues. Eighty per cent. were successful. Cancer was certainly not a primary blood-disease. Dr. Bashford gave evidence that he was appointed director of the Imperial Cancer Institute in 1902. The object was to search for a cure of cancer without the use of the knife. The theory that cancer was a disease of the blood used to be held but had been abandoned since 1880. It was disproved by the enormous improvement from excision and investigation of the minute areas in which cancer arose. Dr. Lazarus Barlow, director of the Cancer Research Laboratories at the Middlesex Hospital, and Sir Alfred Pearce Gould, deposed that the only cure for cancer was operation. Dr. Bullock, pathologist to the London Hospital, and Dr. Boycott, of Guy's Hospital, gave evidence as to the untenability of the plaintiff's views. The Lord Chief Justice in summing up said that it had been argued that Dr. Bashford was honest in criticisms, but that that was not the sole question. If he had described Dr. Bell's action as quackery, and the jury decided that it was not fair comment, although he believed what he wrote, it was a libel. "It would be a lamentable thing if any attempt or research to find a cure for this scourge should be checked by unjust criticism and comment." The jury quickly gave the verdict stated above. It is evident that the judge and jury did not properly grasp the issue and regarded the plaintiff as simply the exponent of views unpopular with the majority of the profession which possibly might some day be proved correct. This was partly due to the difficulty of presenting the question properly to the lay mind and partly to defective presentation.

Conviction of Cruelty Against a Parent for Declining to Submit His Child to Operation

A very unusual case has occurred in which a man was convicted of cruelty for declining to allow his child to undergo operation. A girl, aged 5, the daughter of a quarryman in Northamptonshire, was noticed at school to be unable to articulate. The school medical officer found that she was suffering from cleft palate and recommended an operation. He urged the father to allow this, but the latter persistently refused. The matter was brought before the Society for the Prevention of Cruelty to Children, who prosecuted the man with a view to testing the legality of his refusal and procuring surgical treatment for the child. The father was convicted. This appears to be the first case in this country in which a parent has been convicted for refusing to allow an operation on his child. As a general rule, when the question of operation on a child arises a father has the undisputed right of declining.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 14, 1912.

Three New Professors at the Paris Medical School

For the clinic of urinary diseases at the Faculté de médecine de Paris, to succeed the late Professor Albarran, Dr. Legueu, *agrégé* at the school and surgeon of the hospitals, was chosen. Dr. Legueu has written numerous articles on general surgery, on diseases of the kidney, the bladder, etc., and, in 1910, published a treatise of surgical urology. For the chair of external pathology, in place of the late Professor Lannelongue, Dr. Lejars, *agrégé* at the Faculté and surgeon of the hospitals, was selected. Dr. Lejars is the author of a notable treatise on emergency surgery, which has been translated into many foreign languages and has made his name known to the scientific world. For the chair of medical chemistry, to succeed Prof. Armand Gautier, who has reached the age limit, the choice fell on Dr. Desgrez, *agrégé* at the school, and for many years a co-worker with his instructors, Professors Bouchard and Armand Gautier.

The Maclaughlin Electric Belt

On March 3, 1910, the court for the trial of misdemeanors, called to decide on a prosecution for swindling and the illegal practice of medicine, relative to the Maclaughlin electric belt (THE JOURNAL A. M. A., March 19, 1910, p. 980) gave judgment, dismissing the charge of swindling, and, under the crimination of illegal practice, or complicity in the illegal practice of medicine, fined the prisoners, Henri Zoock, Cooley, Cooper and Drs. Jean Dumoret and Jacques Ficatier, $100 (500 francs) each and $200 (1,000 francs) damages for each of the

three medical *syndicats*, civil parties in the suit. The case did not stop there, but was taken before the Court of Appeals, which, after the address of the attorney-general, rendered the following judgment: Henri Zoock (by default), two years' imprisonment and a fine of 1,000 francs; Cooley and Cooper, each one year imprisonment and a fine of 1,000 francs; Drs. Jean Dumoret and Jacques Ficatier, each six months' imprisonment. The five prisoners, moreover, were fined, conjointly, the total sum of 30,000 francs damages for the medical syndicates, civil parties, and for fifty notices of the judgment in the newspapers.

Homage to Dr. Lucas-Championnière

In the surgical amphitheater of the Hôtel Dieu, on June 9, a ceremony in honor of Dr. Lucas-Championnière, who introduced surgical antiseptics in France and who was recently elected to the Academy of Sciences, was given. The ceremony was presided over by Professor Guyon. A commemorative medal, designed by Dr. Paul Richer, was presented to Dr. Lucas-Championnière. Addresses were given by M. Mesureur, Director of Public Charities, who earnestly thanked Lucas-Championnière for his forty years of hospital service, by Professor Guyon, etc.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 14, 1912.

Personal

Professor Lichtheim, director of the university medical clinic of Königsberg, will resign his position at the end of the summer semester on account of his age, which is now 67.

Professor Kraus, the pupil of the lately deceased Professor Bach, has been entrusted temporarily with the direction of Bach's eye clinic at Marburg.

Ehrlich on Laboratory Experiments and Clinical Trials of Drugs

At the recent annual meeting of German chemists at Freiburg this year, Ehrlich delivered an address on the discovery of new remedies and testing of them in pharmacologic laboratories. He pointed out that it is the task of chemotherapy to test a series of homologous compounds by animal experiments to determine which will accomplish a definite object, such as the destruction of parasites, and which is the most suitable among these compounds. For the transference of these experiments to man, which as a rule is beset with the greatest difficulties, the first task is to determine carefully the toxic coefficient of the medicines to be tested. If a certain by-effect occurs frequently at a few places and is not observed at others, according to his opinion, this is evidence that the injury observed does not inhere in the remedy itself, but that there must be some fault in the technic. The determination of such relations is possible only when a large number of single observations on man have been made. Ehrlich referred to salvarsan as an illustration. He discussed first the diseases in which salvarsan exerts an unquestionable curative action, and then those in which it fails, as for instance, sleeping-sickness. He expressed the hope that by the combination of several remedies—none individually curative—an effective preparation might yet be secured. A trypanosome infection of goats, for instance, is only slightly affected by arsenic preparations, but almost moribund animals are cured by a combination of trypanosan and antimonial wine. He also referred to the investigations of Professor Morgenroth, who has succeeded in finding in the quinin series substances which cure the fatal pneumococcic infection of mice, and to the experiments of Wassermann in removing malignant growths in mice by chemotherapeutic means.

Prevention of Middle-Class Tuberculosis

Institutions for the cure and prevention of tuberculosis among the laboring classes are now successfully under way, and the attempt is now being made to bring to the so-called middle class (composed of teachers, artisans, retail merchants, etc.) the benefits of the measures for the prevention of tuberculosis. For this purpose the German central committee for the campaign against tuberculosis has appointed a subcommittee to provide sanatorium treatment and employ in prophylaxis the already existing sanitary stations for tuberculosis. The sanatorium association of the Red Cross has already undertaken to build a model sanatorium for the middle class. Further investigation is being made as to the available beds in private sanatoriums for the middle class. All the associations which have made the care for people of moderate means their object, will be brought into cooperation.

Marriages

KENT C. MELHORN, M.D., M. C., U. S. Navy, Newport, R. I., to Miss Jeanne J. Andrews, of Kenton, O., in Philadelphia, June 19.

ROBERT BERTINE HAMMOND, M.D., Milbourne, N. Y., to Miss Harriett Ellard Frank, of Great Neck, L. I., N. Y., June 20.

GEORGE STEWART BOWER, M.D., Galesburg, Ill., to Miss Katherine Barkmann, of Junction City, Kan., June 12.

GEORGE ORVILLE SCOTT, M.D., Ottawa, Ont., to Miss Helen Burnet Gilhooly, of Elizabeth, N. J., June 12.

SAMUEL MILBANK, M.D., New York City, to Miss May A. Weatherbee, of Mamaroneck, N. Y., June 15.

MICHAEL JOSEPH HORAN, M.D., New York City, to Miss Agnes Cecilia Dee, of Yonkers, N. Y., June 15.

CLINTON MAUPIN FARIS, M.D., Sacramento, Cal., to Miss Ethel Pippy, of Marysville, Cal., June 3.

PETER L. DAHL, M.D., Devil's Lake, N. Dak., to Miss Vera Lewis, of Canton, S. Dak., June 11.

AARON V. WENGER, M.D., Grand Rapids, Mich., to Miss Fanny L. Roth, of Lowell, Mich., June 20.

MERRILL JAMES HIDE, M.D., Brandon, Ia., to Mrs. Jennie Pierce, of Rochelle, Ill., recently.

MALCOM M'BURNEY, M.D., to Miss Helen Dorothy Moran, both of New York City, June 19.

JULIAN J. MEYER, M.D., to Miss Grace Hofheimer, both of New York City, June 16.

GEORGE W. BARNETT, M.D., to Miss Anna Strauss, both of Johnstown, Pa., June 12.

ERNEST C. LEVY, M.D., to Miss Elizabeth Detwiler, both of Richmond, Va., June 20.

PAUL WILLIS BROWN, M.D., to Miss Elizabeth Lake, both of Springfield, O., June 20.

GEORGE KISSICK WILSON, M.D., to Miss Nellie Dixon, both of Streator, Ill., June 20.

CARL J. MULLER, M.D., to Miss Antoinette K. Camieu, both of St. Louis, June 20.

EDWARD J. DICK, M.D., to Miss A. Bertha Dias, both of Syracuse, N. Y., June 18.

JAY C. BOOHER, M.D., to Miss Jennie Carrier, both of Falls Creek, Pa., June 12.

Deaths

William Simpson Walker, M.D. Medical College of Indiana, Indianapolis, 1887; a member of the American Medical Association and Mississippi Valley Medical Association; once president of the district branch of the Indiana State Medical Association; a trustee of his alma mater; physician-in-chief to the St. Joseph Orphan Asylum; twice a member of the LaFayette city council and a member of the school board; died at his home, June 17, from tuberculosis, aged 65. The Tippecanoe County Medical Society and other physicians of the city and county met in LaFayette, June 18, and adopted resolutions of eulogy and regret.

George P. Hanawalt, M.D. Georgetown University, Washington, D. C., 1864; a member of the American Medical Association; corresponding secretary of the State Medical Society in 1869; secretary in 1871 and president in 1880; a hospital steward in the army during the Civil War and thereafter an acting assistant surgeon for three years; for many years surgeon to the railroads centering in Des Moines; surgeon general of Iowa from 1877 to 1893 with the rank of brigadier-general; died at his home in Des Moines, June 19, from senile debility, aged 75.

James Root Fairbanks, M.D. Berkshire Medical College, Pittsfield, Mass., 1863; a member of the American Medical Association and American Association for the Advancement of Science; hospital steward and assistant surgeon of the Thirty-Fourth Massachusetts Volunteer Infantry during the Civil War; trustee of the Home for Elderly Women of Amsterdam, N. Y., and consulting surgeon to the Amsterdam Hospital; died at his home, June 14, from pneumonia, aged 69.

William Wilson Walter, M.D. University of Pennsylvania, Philadelphia, 1883; a member of the Kansas State Medical Society and a practitioner of Leavenworth since 1883; for twenty years local surgeon of the Missouri Pacific, Union Pacific, Santa Fe and Burlington systems; for many years president of the Nurses' Training School of Cushing Hospital; died at his home, June 18, from arteriosclerosis and chronic nephritis, aged 52.

William Addison Phillips, M.D. University of Michigan, Ann Arbor, 1883; of Cookville, Mo.; president of the Central Kansas District Medical Society in 1889; formerly local surgeon at Salina, Kan., for the Santa Fe, Missouri Pacific, Union Pacific and Rock Island systems, and associate editor of the *Kansas Medical Journal;* died at his home in Cookville, June 10, from spinal meningitis, aged 50.

Adam A. Franke, M.D. Kentucky School of Medicine, Louisville, 1887; formerly a member of the Jasper County (Ill.) Medical Society and a member of the American Association of Railway Surgeons; local surgeon for the Illinois Central Railroad at Newton; died at his home in Newton, June 12, from cerebral hemorrhage, aged 59.

R. Bruce Burns, M.D. University of Pennsylvania, Philadelphia, 1871; formerly a member of the Medical Society of the State of Pennsylvania and a practitioner of Philadelphia, but for the last two years a resident of Atlantic City, N. J., died at his home in that place, June 14, from cerebral hemorrhage, aged 65.

Charles C. O'Donnell for sixty-two years a practitioner of California; founder of the public morgue; a veteran of the Mexican War; prominent in the Anti-Chinese agitation of 1867; coroner of San Francisco County in 1885; died at his home in San Francisco, May 27, from cerebral hemorrhage, aged 80.

Henry Martin Hitchcock, M.D. College of Physicians and Surgeons, New York City, 1861; proprietor of the Great View Sanatorium, Greenwich, Conn.; a representative in the Connecticut legislature; died at his home in Greenwich, June 19, from septicemia due to an infected wound of the foot, aged 70.

Henry B. Deale, M.D. George Washington University, Washington, D. C., 1887; a member of the American Medical Association, and one of the best known practitioners of Washington; a member of the surgical staff of Garfield Hospital; died at his home, June 19, from angina pectoris, aged 50.

William Lipscomb Dickson, M.D. Bellevue Hospital Medical College, 1881; a member of the American Medical Association; one of the foremost practitioners of Shreveport, La., and formerly president of the Shreveport State Charity Hospital; died at his home, June 18, from nephritis, aged 54.

Eberhard Wilhelm Dittrich, M.D. Bellevue Hospital Medical College, 1894; a member of the American Medical Association and professor of diseases of the skin in the Post-Graduate College, New York City; died at his home in New York, June 16, from heart disease, aged 51.

Homer V. Reynolds, M.D. Jefferson Medical College, 1869; a Confederate veteran; a member of the American Medical Association and a member of the board of education of Marietta, Ga., from the time of its organization; died in a sanitarium in Atlanta, June 18, aged 64.

Samuel George McClellan Snyder, M.D. Baltimore University, 1888; a member of the Medical Society of the State of Pennsylvania and formerly vice-president of the Huntington County Medical Association; died at his home in Altoona, June 12, from nephritis, aged 49.

Edmund Carleton, M.D. New York Homeopathic Medical College, New York City, 1871; a member of the faculty of his alma mater; consulting surgeon to several New York hospitals; a veteran of the Civil War; died at his home in New York City, June 15, aged 72.

Louis Mortimer Early, M.D. Jefferson Medical College, 1881; one of the early experimenters with, and students of, the roentgen ray; died at his home in Columbus, O., June 13, from cancer, for which successive operations had been performed without avail, aged 52.

John M. Rice, M.D. Beaumont Hospital Medical College, St. Louis, 1893; of Kansas City; a member of the American Medical Association; formerly of Warrensburg, Mo.; died in the Planters Hotel in Kansas City, March 29, from cerebral hemorrhage, aged 40.

William F. Hannan, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1869; a veteran of the Civil War; for 22 years a resident of California; died in the Jones Hospital, Grass Valley, April 29, from carcinoma of the larynx, aged 72.

Melchior B. Strickler, M.D. University of Pennsylvania, Philadelphia, 1861; formerly surgeon in the fire and police departments of Washington, D. C.; died recently at his home in Washington, and was buried June 20, aged 78.

Lewis T. Trumbower, M.D. Bellevue Hospital Medical College, 1862; for many years a practitioner of Norristown, Pa.; died at the home of his son in Swarthmore, Pa., June 17, from cerebral hemorrhage, aged 75.

George Pell Carman, M.D. United States Medical College, New York City, 1879; formerly president of the Brooklyn Academy of Medicine; died at his home in Brooklyn, June 8, from diabetes, aged 72.

Leonard F. Allen, M.D. Albany (N. Y.) Medical College, about 1850; for many years local surgeon for the St. Paul System, at Tama, Ia.; died at his home, May 26, from chronic myocarditis, aged 85.

John Franklin Hudson, M.D. Western Reserve University, Cleveland, 1882; a member of the American Medical Association; died at his home in Canton, O., April 24, from carcinoma of the liver, aged 59.

George Sullivan Gove, M.D. Dartmouth Medical School, Hanover, N. H., 1859; a member of the New Hampshire Medical Society; died at his home in Whitefield, June 14, from senile debility, aged 83.

William H. Boggs, M.D. Baltimore University, 1892; a member of the Medical Society of the State of Pennsylvania; died at his home in Huntingdon, June 8, from nephritis, aged 45.

Bert Ketchum Van Naten, M.D. University of Michigan, Ann Arbor, 1900; of South Sharon, Pa.; died recently at Farrell, Pa., aged 35, and was buried at Franklin, Pa., June 4.

Mortimer Howard Farmer, M.D. University of Nebraska, Eclectic Department, Lincoln, 1885; formerly of Virden, Ill., died at his home in Springfield, Ill., June 9, aged 49.

Newton N. Gober, M.D. Reform Medical College of Georgia, Macon, 1860; of Atlanta, Ga.; a Confederate veteran; died in St. Joseph Infirmary, Atlanta, May 25, aged 75.

Benjamin F. Johnson, M.D. Eclectic Medical Institute, Cincinnati, 1883; of Pontiac, Ill.; died in a hospital at Chicago, April 26, after an operation for gall-stones, aged 54.

John Brown Foss, M.D. Hahnemann Medical College, Chicago, 1883; died at his home in Crete, Neb., March 30, from cerebral abscess, following influenza, aged 59.

Samuel W. Field, M.D. Tulane University, New Orleans, 1862; of Dallas, Tex.; died in the Baptist Memorial Sanitarium in that city, May 16, aged 73.

Peter Frank Bellamy, M.D. Botanic Medical College, Memphis, Tenn., 1857; died at his home in Oakwood, Tenn., April 12, from chronic bronchitis, aged 76.

Robert Lee Moore, M.D. Beaumont Hospital Medical College, St. Louis, 1888; formerly city physician of St. Louis; died in his home in that city, June 10.

James Valatine Cornish, M.D. Rush Medical College, Chicago, 1881; of Quincy, Ill.; died in the Jacksonville State Hospital, June 16, aged 63.

Lewis C. Stewart, M.D. Indiana Eclectic College, Indianapolis, 1886; died at his home in Muncie, Ind., June 12, from cerebral hemorrhage, aged 52.

Eben R. Stoner, M.D. University of Missouri, Columbia, 1854; died at his home in Griggsville, Ill., June 17, from senile debility, aged 86.

Milton M. Rowley, M.D. Chicago Medical College, 1887; died at his home in Berkeley, Cal., June 4, from cardiac asthma, aged 61.

Wilham C. Lewis (license, years of practice, Ohio, 1896); died at his home in Rushville, June 5, from heart disease, aged 78.

John A. McNeeley, M.D. University of Tennessee, Nashville, 1889; a Confederate veteran; died at his home in Wingo, Ky., June 8.

Thomas Jefferson Satcher, M.D. University of Louisville (Ky.) 1887; of Columbus, La.; died suddenly in Many, La., June 5.

Oscar Frank Pierce, M.D. Hahnemann Medical College, Chicago, 1890; died at his home in that city, June 23, aged 55.

Joseph H. Evans (license, Tenn., 1889); died recently at his home in Jackson and was buried May 12, aged 78.

Charles W. Downs, M.D. Bennett Medical College, Chicago, 1888; died at his home in Omaha, June 2, aged 54.

J. B. Robinson, M.D. Hahnemann Medical College, Chicago, 1879; died at his home in Evanston, Ill., April 21.

Miscellany

A Notable Centennial

The one hundredth anniversary meeting of the Rhode Island Medical Society, June 12-13, was marked by the formal opening of the new Rhode Island Medical Library on Francis Street, Providence. This building, in addition to its use as a library, is also the headquarters of the State Society. Its corner-stone was laid with appropriate ceremonies, June 1, 1911, and in the corner-stone were deposited the first and last numbers of the transactions of the Rhode Island Medical Society, its charter, constitution and by-laws; the *Providence Medical Journal* for May, 1911; a monthly bulletin of the Rhode Island State Board of Health for January, 1911; the annual reports of the Rhode Island Hospital, St. Joseph's Hospital, Newport Hospital, Memorial Pawtucket, Woonsocket Hospital, Butler Hospital, Providence Lying-In Hospital and Providence Hospital; copies of the local papers for June 1, coins of the year 1911 and a program of the proceedings.

At the first meeting of the Rhode Island Medical Society in 1812, a librarian was elected. For several years thereafter the society appointed two librarians, one for the southern section with headquarters in Newport, and the other for the northern section, located in Providence.

In 1835 Dr. Caleb Fiske, Scituate, gave his library to the society. A little later the library sections were consolidated in Providence, and in 1868 the books were deposited in the Rhode Island Hospital for safe-keeping. In 1879 the library project was revived and in the first year $600 was collected for this purpose. In 1880 the secretary of the society wrote to the various medical societies of America asking exchange of transactions and this has resulted in securing for the society, a collection of medical society transactions equaled by few libraries in the country. Many of the local practitioners generously donated books and journals to the library and other medical libraries also gave of their abundance to the library.

The library was first housed in the rooms of the Providence Franklin Society but in 1900 the Providence Public Library devoted the top floor of its recently completed building, with book stacks and a reading room to the use of the profession.

The new building is located at the corner of Francis and Hayes streets, opposite the state capitol. It is of granite and dark red brick and classic in design. The principal entrance is on Francis Street and to the left of this entrance is the reading room which is about thirty-six feet square and occupies the southern part of the building. The Horace G. Miller room and coat and toilet rooms are also on this floor. The entire second floor is occupied by the assembly hall which is seventy-six feet long by thirty-six feet wide and nineteen feet high with a vaulted ceiling. The lunch room is situated in the basement and the stack room occupies the entire ell above the basement. It is fitted with metal book shelves arranged in three tiers with a capacity of 40,000 volumes. The tiers are connected by an iron stairway and there is a book-lift from the upper story to the basement.

The library stands as a memorial to the concerted work of the devoted members of the Rhode Island Medical Society.

At the ceremonies attending the opening of the building, June 12, addresses were made by Dr. Abraham Jacobi, president of the American Medical Association, and by Dr. F. T. Rogers, president of the society, in the new building. The first official exercise of the society in its new quarters was the induction of the newly-elected officers into their positions.

Work of Health Officers.—Among the many vexatious things with which every health officer has to contend, no one thing so tries his patience as does the misunderstanding of the general public as to the real work of a modern department of health. It is safe to say that the vast majority of the citizens in any community know absolutely nothing of the real work in which their health officer, if he is doing his duty, is engaged—the scientific studies of a general and local character which he conducts; the correlation of the work of all his subordinates and the interpretation of results; the outlining of new policies and the successful execution of those for which he is fortunate enough to secure the necessary support; the decisions as to how his meager appropriations had best be employed; the meeting of threatened dangers before they have become a real menace; the daily work for limiting all preventable diseases; the discipline of his department; the educational efforts which he must make; the keeping in constant touch with the leaders in his profession . . . the constant attention which he must give to keeping his work before the public in such a way as to help his community; the cooperation which he must aim always to secure from leading citizens and their business organizations; the inevitable controversies which arise from selfish interests and in which he must successfully maintain his points against all attacks—these are a few of the matters, set down almost at random, which engage the best thought of a real health officer.—Levy in *Am. Jour. Public Health*, January, 1912.

RHODE ISLAND MEDICAL LIBRARY BUILDING

PANORAMIC VIEW SHOWING RHODE ISLAND MEDICAL SOCIETY BUILDING AND CAPITOL

The Fifth International Sanitary Conference of American Republics.—At the Fifth International Sanitary Conference held at Santiago, Chile, in November, 1911, a number of resolutions were adopted by the conference which are of interest. Among them were resolutions that the different governments be requested to organize complete and practical courses of education of hygienists and that in future they insist on special requirements (diplomas, etc.) for those to be employed in sanitary work; that death certificates be executed by physicians only, especially in cities and ports, with the object of improving the reports of vital statistics; that countries where leprosy exists make a study of the number of lepers and establish colonies for their isolation; that prostitution in cities, and especially in seaports, be regulated, said regulation to be in the hands of physicians especially prepared for this kind of work; that permanent tuberculosis commissions be created in their respective countries; that in order to consider an individual immune to yellow fever, he must have had an attack of that disease; the enactment of laws relating to obligatory vaccination and revaccination against small-pox; that all passengers from cholera-infected districts, or who may have been in contact with those infected with cholera, shall be subject to a bacteriologic examination of their stools. —*Public Health Rep.*

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TAKA-DIASTASE AND LIQUID TAKA-DIASTASE

Report of the Council on Pharmacy and Chemistry

Some time ago it was decided that a reexamination should be made of Taka-Diastase and Liquid Taka-Diastase, both of which had previously been rejected, to ascertain whether or not the preparations were in accord with the claims made for them by the manufacturers. Accordingly, the matter was referred to a committee of the Council, and an examination of specimens of these two preparations bought in the market was made. The referee's report, which appears below, according to the usual procedure, and before final confirmation by the Council, was first submitted to the manufacturers of Taka-Diastase for comment. The report recommends that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report be published. Parke, Davis & Co., in their reply, which is given in full below, claim that the report is unjust concerning Liquid Taka-Diastase, because the period of activity of the preparation has been greatly prolonged by reducing the amount of alcohol from 18 per cent. to 10 per cent. and by adding glycerin. They reiterate their claims for the digestive power of Taka-Diastase, but admit that it will not reduce the stated amount of starch to the colorless end-point in ten minutes (the standard method for the valuation of diastase). They further state that they would change the word "digest" on the label to "liquefy."

The conclusion of the report having been questioned, the entire matter was referred to a member of the Council's staff of clinical consultants. His report, which, also, is given in full below, states that the material before him was sufficient to decide the matter, and no further tests were necessary. He concludes that the claims of the manufacturers regarding the strength and properties of the material are erroneous and exaggerated; that the literature still sent out by Parke, Davis & Co. is misleading; and that if substitution of the word "liquefy" for "digest" were endorsed by the Council confusion would result which would give an exaggerated and false value to Taka-Diastase. He therefore recommends that the report of the reinvestigation of Taka-Diastase be accepted by the Council and published.

This report of the second referee was referred to Parke, Davis & Co. with the request that they state more definitely the actual amylolytic strength of their preparations. To this they replied that they had no desire to discuss the subject further, or to make any addlitional statements.

In accordance with the second referee's recommendations, the Council confirmed its provisional action and voted that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand, and that the report which appears below be authorized for publication.

W. A. PUCKNER, Secretary.

Referee's Report on Taka-Diastase and Liquid Taka-Diastase

Following is the report of the committee to which was referred the reexamination of Taka-Diastase and Liquid Taka-Diastase:

Some time ago a comparison was made of the various methods proposed for the valuation of preparations claimed to have amylolytic power. This work was reported in THE JOURNAL,[1] and the method proposed for the testing of diastase preparations now appears in New and Nonofficial Remedies.[2] In view of the incorrect and exaggerated claims made for Taka-Diastase, the Council in 1908 was obliged to rescind its acceptance and to direct its omission from New and Nonofficial Remedies. The report contained the following reference to Taka-Diastase (Parke, Davis and Company), a product that had been accepted for inclusion with New and Nonofficial Remedies:

"The widest discrepancy between the values as claimed by the manufacturer and those found by actual tests seems to be shown in the case of Taka-Diastase. The liquid preparation has been tested a number of times in different samples and has always been found weak. Some samples, in fact, were quite inert. This ferment appears to lose strength very rapidly in solution, as the manufacturers now concede. The stability of the solid product is also far from satisfactory, and appears to be less than that of the ferment as marketed some years ago. The two samples examined recently were weak."

More than three years have now elapsed since the publication of the Council's findings regarding Taka-Diastase—sufficient time, it is believed, for the manufacturers either to modify their claims or the product itself, and thus again make it eligible for inclusion with New and Nonofficial Remedies. With this idea in mind new specimens of Taka-Diastase and Liquid Taka-Diastase were purchased from a Chicago drug house and the preparations reinvestigated. The following is the report of this reinvestigation.

REPORT OF THE REEXAMINATION

In our report on the diastase preparations three years ago, it was recommended that Taka-Diastase be removed from New and Nonofficial Remedies because the examinations showed that it did not have the digestive strength claimed for it. This was true both for Taka-Diastase itself and for Liquid Taka-Diastase. So far as the latter was concerned, the starch converting power was practically *nil* in those preparations which had been in the drug stores for some months.

During the last few weeks new tests have been carried out with several samples of the Taka-Diastase preparations and the results obtained are essentially the same as those obtained in the former examinations. The liquid preparation is still extremely weak in starch-converting power, while we found that Taka-Diastase itself would convert only 16.6 parts of pure anhydrous starch to the colorless end-point in ten minutes, as explained below.

In our method of experimentation we determine the weight of the diastase in question which will convert a given weight of starch in uniform paste to the so-called colorless end-point in ten minutes, that is to the point where it will no longer give any color reaction with a standard iodin solution. The standard starch weight in 50 c.c. always is 1 gm. or 1,000 mg. and to a series of flasks containing this amount of starch, maintained at a constant temperature of 40 C., the diastase dilutions are added. These diastase dilutions are made by dissolving small, accurately weighed amounts of the sample in some small, constant volume of water, usually 5 or 10 c.c. and they are then poured into the starch flasks at the right temperature, and agitated regularly.

Tests are made by taking a few drops from each flask and mixing with the iodin solution. The end-point is reached when a dilution is found which, at ten minutes from the mixing time, gives no color with the iodin reagent. The first set of tests is taken as a general guide, and quite accurate results may be obtained in a second set of dilutions.

We first used a sample of Taka-Diastase bought in the open market. It was found that 140 mg. were required to convert the gram of starch as explained. This is equivalent to a conversion of 7.14 parts of starch by 1 part of the Taka-Diastase.

A new, and possibly fresher, sample was then obtained and the test repeated. With this new sample it was found that 60 mg. were necessary to convert the gram of starch to the colorless end-point in ten minutes, from which it follows that 1 part of the ferment will convert 16.6 parts of starch to the colorless end-point in the same time. With a new sample of Liquid Taka-Diastase obtained simultaneously it was found that 3.5 c.c. were necessary to convert 1 gram of starch to the colorless end-point in ten minutes. As a fluidounce of this liquid is said to contain 20 grains of the solid it will be seen that the results approximately agree with those of the first sample of the solid, and that they are both very low.

In the earlier tests 16 parts of starch converted by 1 part of the ferment was the value found. These results are in close agreement with values reported by Sherman (*Jour. Am. Chem. Soc.*, xxxii, 1073) for a sample of recent purchase. He found a conversion of 51 parts of starch to the colorless end-point in *thirty* minutes for one sample, while for another he found 66 parts, in the same time. It will be noted that our time limit is *ten* minutes. It is worthy of note that for a perfectly fresh and specially prepared sample furnished by Dr. Takamine, a conversion of 278 parts in *thirty* minutes was found by Sherman. Taking the time into consideration it will be seen that the results are about the same for the market samples as those found by us and much lower than claimed, as well as much lower than for other makes of sim-

1. THE JOURNAL A. M. A., July 11, 1908, p. 140.
2. New and Nonofficial Remedies, 1912, p. 68; also THE JOURNAL A. M. A., April 15, 1911, Part 2. p. 18.

ilar products. The difference in the behavior of fresh specially prepared Taka-Diastase and the market sample is very clearly shown. No one questions the fact that fresh laboratory samples of Taka-Diastase may show a moderate converting power on starch. But we have to deal with the *activity of market samples only*, and Sherman's work and our own show the low digesting power of the product as physicians may secure it on the market.

The marked difference in activity between perfectly fresh and ordinary market samples of Taka-Diastase is very clearly shown also in a recent paper published by Wohlgemuth.[3] In the digestion of starch paste to the "dextrine" stage Wohlgemuth found in the commercial sample a strength approximately a hundred times less than that observed in a fresh sample sent him by Dr. Takamine.

Wohlgemuth's results were obtained by a method not essentially different from ours, with this difference, however, that he digested through 24 hours in the cases reported, and carried the reaction to the "dextrine" stage only, in place of to a colorless end-point. Making the proper reductions it is evident that the actual values found by him for the market samples bought in Germany are not greater than those reported by us.

The reference to the work of Sherman is made because, in a following paper in the same journal, he recommends the use of salt as an activator in finding the strength of certain diastase preparations. It is well known that dialyzed diastase preparations and starch of highest purity have but slight action on each other; a little salt increases the activity greatly, and also increases the activity of commercial diastase preparations. These facts Sherman utilizes in working out a method for valuation of commercial diastases. The facts were well known to us at the time of our former report, but it was not thought best to depart from the general method which had been in use by all analysts following the general scheme of Roberts. Quite recently, I. Bang has published a paper on the investigation of diastase (*Biochem. Ztschr.*, xxxii, 417) in which he studies the behavior of sodium chlorid and other salts on the rapidity of starch conversion, and finds that a much smaller amount of salt than Sherman recommends brings the maximum increase.

The method employed in our former tests is a good comparative method, and that is all that may be claimed at present for any method. By adding salt to our starch solution the activity of Panase and other ferments is likewise greatly increased. For Panase, a preparation possessing rather high starch converting power, we have recently found an increase of about 30 per cent. in the converting power, with salt present. Working to loss of blue color, merely, it is possible in this way to get a higher value than that claimed by the manufacturer. There is no practical gain in using the salt for our purpose as the methods are at best arbitrary, and the results only comparative.

Taking all the facts into consideration it is recommended that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand and that, in view of their extensive exploitation, this report be authorized for publication so that physicians may know the facts.

This report was referred to Parke, Davis & Co., and they made the following reply:

"The report submitted in your letter of the 23d is, we contend, erroneous and unjust: first, to our Liquid Taka-Diastase, because over three years ago we changed our formula reducing the alcohol from 18 per cent. to 10 per cent., increasing the glycerin and thus prolonging greatly the period of activity.

"As for our regular Taka-Diastase, our claim is and has been for years simply that Taka-Diastase will digest or hydrolyze 150 times its weight of starch in ten minutes, under proper conditions. We do not claim, we do not permit our representatives to claim, that Taka-Diastase will completely transform starch, to the colorless end-point, into sugars. Taka-Diastase is used to supplement a deficiency of ptyalin and converts the starch into soluble material with great rapidity, thus giving the gastric fluid immediate access to the proteids.

"If in the enclosed labels the word 'digest' were replaced with the word 'liquefy,' the claim could not be assailed by the most carping critic. To save any possible question, we shall therefore make this change in our label, having it read: 'Taka-Diastase will liquefy 150 times its weight of starch in ten minutes, under proper conditions.' Is there the slightest question in your mind that this statement as just quoted is entirely correct and entirely supported by clinical experience?

"It is our conviction that Taka-Diastase has a very remarkable power to hydrolize starch either in the test-tube or in the stomach, and that this property is of great utility in clinical work. We do not claim that its conversion of the starch into sugars is complete, to the colorless end-point of the Johnson test; and on this point we have been perfectly frank with the Council, as well as with every physician who has taken sufficient interest to inquire."

In view of the above protest, the matter was submitted to a second referee, who reported as follows:

"Your referee on the matter of Taka-Diastase has made a careful investigation of the reports and correspondence submitted, and begs to make the following report:

"The question at issue, viz., whether Taka-Diastase should be included in New and Nonofficial Remedies, I believe, can be determined by the material before me, and further tests of the material are not necessary.

"The letter of the makers of Taka-Diastase admits that the early claims regarding the strength and properties of the material were erroneous and exaggerated. Since the product was once admitted to New and Nonofficial Remedies, it may be claimed that as the Council on Pharmacy and Chemistry must have been in error then, it may be now. Your referee does not consider this supposition worth discussing. The conclusion he draws is that the Council was too hasty in accepting the preparation, and that the incident shows how much better it would be in all cases to accept no remedy until sufficient time has been given for conclusive tests.

"The literature still sent out by Parke, Davis & Co. regarding Taka-Diastase is misleading and of a kind more appropriate for a nostrum than a standard chemical substance. What would we think if morphin, quinin or even heroin were advertised in the same way? I cite the statement, 'Taka-Diastase digests starchy food with vigor and directness.' It seems to the referee that the proposition to modify the label to indicate the amount of starch which is liquefied rather than the amount which is saccharified, in accordance with the Council's standard, is bound to lead to confusion and to give an exaggerated and false value to Taka-Diastase.

"Your referee recommends that the report of the reinvestigation of Taka-Diastase which has been submitted to me, be made available to the medical profession, and that the rejection of Taka-Diastase and Liquid Taka-Diastase be allowed to stand."

This report of the second referee was submitted to Parke, Davis & Co., with the request that they state more explicitly their claims regarding the activity of Taka-Diastase and Liquid Taka-Diastase, in order that, if they decided to revise their claims for the preparations, such revision of claims might be published along with the reports of the Council. They replied:

"Answering your note of the 15th instant: We have no desire to discuss further the subject of your letter of February 24, or to make any statement beyond that set forth in our letter to you of Dec. 27, 1911."

3. Wohlgemuth: Biochem. Ztschr., March 18, 1912.

Association News

What the Newspapers Said About the Association Meeting

Following the Atlantic City session, all newspaper comments regarding the meeting were carefully preserved, with the intention of selecting the most representative paragraphs of criticism and commendation for the "knocks and boosts" column. A large number of editorial comments on the Association and its work have appeared in the newspapers during the last few weeks, probably more than have followed any other session of the Association. Much to our surprise, however, when the clippings were carefully examined, it was found that not a single unfavorable criticism of the Association or its work had been received. The changing attitude of the newspapers of the country toward the American Medical Association and its work has been apparent for some time past. We did not, however, anticipate such a general approval. The following extracts are a few of the editorial comments which appeared:

Philadelphia *Ledger*, June 4: The American Medical Association convenes at Atlantic City for a more serious purpose than that of a holiday in a salubrious environment. This Association upholds the highest standards of professional ethics. . . . It is clear that doctors do not point out the

straight and narrow way to the laity without indicating for themselves the pathway that every reputable physician ought to take. The Association is a court of final appeal. . . . This is indeed a grave responsibility and invests the profession with a dignity that in certain instances amounts almost to sanctity. . . . The generality of physicians are high-minded men of conscientious sobriety, fidelity to duty and unremitting industry, and this is the type that is most largely represented in the membership of the American Medical Association.

Atlantic City *Press*, June 4: The American Medical Association has many active enemies. They are relentless in their anxiety to besmirch the name of the organization and falsify the underlying and fundamental motives of organization in medical circles. But the American Medical Association continues to grow and prosper just the same. Even if the Association had done nothing else but expose and eliminate medical quacks who prey on the ills and pocketbooks of the people, it must be admitted that it would accomplish much for humanity.

Wilkes-Barre (Pa.) *Record*, June 2: The annual convention of the American Medical Association at Atlantic City directs attention to a profession that has advanced more rapidly toward the ultimate goal than any other. Perfection in the healing art will perhaps never be attained, but when one compares the efficiency of medical and surgical treatment of the present with that of half a century ago, there is cause for profound satisfaction. The physician has come into a new sphere of usefulness as praiseworthy in a personal sense as it is beneficial to humanity. He makes his living from the physical distress of human beings, yet everywhere physicians are leading in the effort to control and eradicate disease, thus reducing the opportunities of professional employment. Preventive effort is enlisting the interest of the medical men almost as much as curative effort. . . . Along this line the work of the physician, unremunerative and self-sacrificing, is of the highest value.

New York *Herald*, June 6: The American Medical Association, the representative organization of the physicians of this country, is in session at Atlantic City. . . . The noteworthy feature of its program is the number of papers on the prevention of disease and on the care for the ailing poor. . . . It is interesting to realize that much of this discussion and consequent development of medical knowledge tends to lessen the number of patients and consequently to diminish the need for physicians' services. Physicians as a profession are actually engaged in minimizing their own usefulness—an example of unselfishness that may well be commended to the emulation of all the professions.

Chicago *Journal*, June 19: One of the striking and noteworthy features of the proceedings of the Atlantic City convention of the American Medical Association was the attention given to means of preventing disease and to methods of caring for the sick poor. . . . No other men in these modern days manifest so deep and well-directed an interest in the prevention of disease and physical suffering as the doctors. . . . Few persons outside of the profession have any adequate idea of the drafts made on the time and services of doctors for labor and skill for which they never receive any financial consideration. The charity work of physicians amounts to proportions simply enormous. In the great majority of cases they enter on that work with perfect understanding that they can have no expectation or hope of pay. To them it is especially and emphatically true that "the poor ye have always with you." . . . On the whole, medical men constitute a class worthy of special recognition and unmeasured tribute because of their interest in the very matters which must reduce their range of employment and their devotion to the care of the poor.

Philadelphia *Evening Bulletin*, June 5: The greatest movement the world has ever known toward saving workers of the country from disease and death from dangerous occupations was started toward assured success this morning by coalition of the Public Health Section of the American Medical Association and the American Association for Labor Legislation.

Correspondence

Prenatal Impressions

To the Editor:—The reason for the absence of any of the extremities or parts of a newly born infant has for a long time been a matter of speculation, and from what I have been able to read there is little definite knowledge relative to the cause of deformities. The fact remains that prenatal influence has its advocates.

A recent experience has led me to favor the prenatal impression theory, and I give it to you for what it may be worth.

Both parents are healthy and have had very little sickness; their ages respectively are 35 and 32 years. The presentation and delivery were normal, but the child lacked both ears, only a roughening of the skin and a pin-point concavity being present at the usual site. The inferior maxilla receded an inch and a half, missing the bite that distance. The tongue was bifid, the left portion being adherent to the buccal mucous membrane.

The only light I have to throw on the cause is that last May, 1911, the mother visited her mother, who had at that time a carcinoma of the face, the process extending almost entirely over one side and involving the ear.

The child at this time (June, 1912) is well and healthy, and apparently suffers no inconvenience other than inability to nurse satisfactorily.

J. C. ARNOUT, M.D., Downey, Ida.

An Antiseptic Thermometer Case

To the Editor:—The articles on thermometer disinfection by Drs. Beasley and Gros (THE JOURNAL, Oct. 21, 1911, p. 1357, and June 8, 1912, p. 1756) have been of much interest. Most of us would prefer a clean thermometer, if any, in our own mouths. And this is easily obtained by washing with plain water, immediately after use, to remove the saliva, and then dropping into an ordinary thermometer case filled with alcohol. The action of alcohol is positive, not irritating to the mouth and the device is handy. In regard to the bactericidal action of alcohol on moist organisms, Harrington reported (*Boston Med. and Surg. Jour.*, May 21, 1903) that 90 and 99 per cent. alcohol, i. e., "commercial," is effective against *Staphylococcus pyogenes aureus*, *B. typhosus*, *B. diphtheriæ* and *B. coli communis* in five minutes. Few of us can make calls quicker than that.

L. B. REED, M.D., Plymouth, Mass.

The "Drs. Mixer" Fraud and Congressman Hamilton

To the Editor:—Under the head of "Current Comment," in an article called "Politics and Quackery," you use my name in commenting on the Mixer fraud order case by saying:

> "At the time the Post-Office investigated this fraud C. W. Mixer called on his friend, Congressman E. L. Hamilton, to use what influence he could in preventing the postal authorities interfering with this lucrative but villainous business."

I write to request you to correct this misstatement, which I assume to be entirely unintentional.

Mr. Mixer resides in the district which I represent. A fraud order was issued against him and he came to Washington with his attorney to present his defense in the Post-Office Department. He and his attorney asked me to introduce them to Judge Goodwin, the Assistant Attorney General of the Post-Office Department. This I did.

After a hearing the fraud order was continued in force. I was performing only an ordinary act of courtesy in introducing him and his attorney, and was not called on in any way to pass on the merits of the case.

Men who know Mr. Mixer in the community where he lives speak in high terms of him.

E. L. HAMILTON,
Member of Committee on Interstate and Foreign Commerce.

[COMMENT: We are pleased to learn that the interpretation put on Mr. Hamilton's actions in the Mixer case, which was based on official reports, was erroneous and that he does not stand sponsor for Mixer's cruel fraud. The episode should make clear how undesirable it is for members of Congress to appear in their official capacity in cases of this sort. When the public reads in the official records of fraud orders that a certain congressman "made some remarks in behalf of the defendant" it is likely to place a sinister interpretation on

such reports. Mixer, it will be remembered, sold his worthless nostrums under the claim, inferentially made, that he was a physician. Mixer advertised that his father had been cured "over forty years ago and he has never suffered a day since." As Mixer, senior, had been dead for many years, the statement that he was not suffering, while technically correct, was inferentially misleading. In selling his cancer cure, Mixer published an article said to be a reprint "from one of the leading journals of the country." As a matter of fact, the article was written for and sold to Mixer for five or ten dollars, the arrangement being that he was to pay the money for a certain number of copies of the issue containing this write-up. Nor was the Post-Office fraud order the only evidence of Mixer's charlatanism. He was also prosecuted under the Food and Drugs Act and he pleaded guilty to the charge that his claims for the curative effects of his nostrums were false. Those of our readers who are interested in learning how big a fraud Mixer was, are referred to our pamphlet "Drs. Mixer."

As to the claim that Mixer is spoken of "in high terms" by those who live in the same community, the argument leaves us unimpressed. The same thing has been found true of most of the prosperous quacks whose business has been investigated. They make money easily; they spend it freely; they donate liberally to local enterprises; in most cases, they wield no small amount of political influence—in the Mixer case, to the extent of receiving an official appointment to a national convention. Unfortunately, to a large proportion of the public, wealth is a synonym for respectability, and a man's liberality with the money that he may have obtained ever so fraudulently is made to cover a multitude of sins.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MASCOT COPPER COMPANY

To the Editor:—Having read with interest your articles on Propaganda for Reform, I should be pleased to know if you could supply information on other lines. Could you inform me about the Mascot Copper Company? Their agents are particularly active among the profession at present. I. H. E., Chicago.

ANSWER.—The Mascot Copper Company was organized in June, 1907, under the laws of Arizona with a capitalization of $10,000,000, of which $1,000,000 is preferred stock and $9,000,000 common. Its mines are said to be located on thirty-seven claims in Cochise County, Arizona.

The above information is taken from the "Copper Handbook" for 1911, which is said to be a reliable publication. The handbook further says:

"The mine has been estimated to have in sight 500,000 tons of ore, averaging 4.75 per cent. copper, 14 oz. silver and $3.00 gold per ton, which figures are considered excessive. . . . The company has taken excursion parties of investors to its mines. The methods of promotion employed by this company are not liked and the claims of a large tonnage of rich ore developed would be more impressive if backed by more detailed figures. Is not regarded favorably."

Inquiry of a Chicago firm of stock-brokers elicits the following information: "We know of no market for the stock of this company, nor have we ever heard it mentioned as being in the class of a real investment stock."

SWIMMERS' CRAMP

To the Editor:—What is meant by the term "cramp" as popularly used relative to swimming persons? What are the causes of their production and in what way are they able to produce death? I am unable to find any explanation in what literature I have access to. I. G. W.

ANSWER.—"Cramp" is a name popularly applied to a painful spasm of a muscle or part of a muscle. Death from drowning, of course, is the result of the individual's inability to move his limbs properly. It has been suggested that the spasm of the muscle may be due to ischemia produced by the cold water and the exercise. Another explanation of many drownings on account of alleged cramps is that the person has what is called water-choke, a reflex spasm of the larynx caused by water accidentally entering between the true and the false vocal cords, interfering with breathing, frightening the person and rendering him unable to call for assistance. As the choking person makes no outcry, it is not noticed by his companions, if he has any, that he is in distress. In case spasm attacks the swimmer's legs, the suggestion to sit in the water, making a "tub" as it is called, and supporting oneself by the use of the hands, is a good one. In view of the scanty literature on the subject and of the practical importance of the matter, especially as the swimming season is now at hand, we invite experiences or suggestions from our readers with reference to the nature of the affection and its prevention.

THE DIRECTORY: SHALL IT CONTAIN TWO ADDRESSES AND OFFICE HOURS?

To the Editor:—After a careful examination of the 1912 (third edition) Directory, I wish to compliment you on the publication of this exceedingly valuable and instructive book. In my opinion, however, there is one criticism that may be made—as many others have—namely, the bulky and unwieldy form. To remedy this objection I should suggest the elimination, in the fourth and succeeding editions, of (a) the residence address and (b) the office hours. These two items, recorded in the tabulation of each physician, add greatly to the space used, at the same time being of practically no value whatever in such a work. The first is of no value whatever; the second of very little. Sound the profession at large and see if the majority do not agree with these views. This letter is confidential. A. C.

[COMMENT.—While the above letter is confidential, we publish it for the reason that possibly others feel the same as does our correspondent. We shall be glad to hear from others on the subject.—ED.]

ALBUMINURIA: A CASE FOR DIAGNOSIS

To the Editor:—I have a patient for whom I would like some suggestion as to treatment. He is white, aged 18, born of healthy parents. He had measles and diphtheria without complication several years ago. At present he is healthy, has a good appetite, and the excretions are normal in amount. About three months ago I made an examination for life-insurance and found the specific gravity of the urine 1020. The urine constantly shows albumin, except that it has been absent once from first urine in the morning. Very few casts (hyalin and fine granular). I tried him on the fluidextract ergot and alkaline waters about two months. I saw him again a few days ago. The pulse was 100 (previously 72), albumin was present and the specific gravity 1014. The patient smokes a great deal. The heart sounds are normal as well as the lungs. I gave him elix. buchu, juniper and potassium acetate and digitalis as an experiment. What would you advise doing with the patient? Please omit my name and address. X. Y. Z.

ANSWER.—Our first advice would be to make a diagnosis. It is not scientific to make therapeutic experiments, as our correspondent has done, until it is fairly well known what is the matter. It is in just such cases as this that drugs should not be given, unless to meet definite indications; faithful, earnest endeavors should first be made to arrive at the diagnosis. The main question that arises is, is there an organic affection of the kidney, or is the disease due to general conditions which affect the functions of that organ? One of the functional conditions that has attracted considerable attention is orthostatic albuminuria. In this condition the albumin is absent from the urine while the patient is in a recumbent position, but appears after rising. The statement that albumin has been absent once from the first urine in the morning would indicate the possibility that this condition is present. The urine should be repeatedly tested while the patient is in a recumbent position and if albumin is found only in the upright position we may assume that there is no organic disease of the kidneys. The occurrence of casts in the urine used to be taken as evidence of nephritis, but recent investigations have shown that they may occur in some normal cases. Their presence, however, if in any way constant, indicates an irritated condition of the kidneys and it must be admitted that casts and albumin usually justify the diagnosis of nephritis. In such cases the condition of the cardiovascular apparatus should be very carefully determined. The blood-pressure should be estimated and the attempt made to determine the functional power of the heart. Also the urine should be examined for indican, the presence of which may point to putrefactive processes in the intestines as the source of a toxemia which causes the albuminuria. If there is any indication of disease of the bladder it would be well also to examine that organ with the cystoscope, although this usually will not be necessary.

In case indican is found in the urine, a diet which will prevent putrefaction in the intestines should at once be instituted. Such a diet involves the exclusion of eggs and meat and the use of a considerable amount of carbohydrate food. Fortunately this is the diet that is advisable for most cases of nephritis. Other hygienic measures such as proper clothing, avoidance of colds, care of the skin, etc., which are calculated to shield the kidneys from irritation, should be carried out.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

HOMEOPATHIC PHYSICIANS ENDORSE OWEN BILL

The following letter has been sent to Senators Works and Perkins by Dr. William Simpson of San Jose, Cal.:

Dear Sir:—As a member of the Medical Library Club, an association of physicians of all schools, as a homeopathic physician who has been twice president of the California State Homeopathic Medical Society, I wish most respectfully, but most earnestly to ask your support for the Owen bill, No. 1, to establish a public health service, believing it will help greatly in preserving the health, and promoting good sanitary conditions, and will in no way limit the rights of any one to practice medicine as he believes for the best interests of his patients.

I am not a member of the American Medical Association, but have been for many years interested in sanitary matters and was president of the California Public Health Association in 1905.

Yours respectfully,

WM. SIMPSON, M.D.

The following has also been sent to Senators Perkins and Works:

Believing that Senate Bill No. 1 creates a public health service for the best interests of the country, and that public health should be in some measure a public charge, we, the undersigned homeopathic physicians, respectfully request you to support and vote for this bill.

Signed by Drs. Wayland, Helen Lee, Greenwood, Goodridge, W. S. and S. B. Van Dalsem, Loehr, Park, Kapp, Walter and Coleman, all in active practice.

According to the Dayton, Ohio, *Herald*, the Dayton Homeopathic Medical Society, at its recent meeting, endorsed the Owen bill and asked the American Institute of Homeopathy to support this measure.

MEDICAL ECONOMICS

A. H. Madry, M.D.
AURORA, MO.

Medical economics is not "a set of rules to be observed in the practice of medicine." Old rules and idolized conceptions had to be broken before a foundation for the new science could be laid. Many truths and much information of incalculable value to the profession and the people have been wasted through our failure to recognize and apply properly the laws of exchange. When these laws have been properly studied and applied, both medicine and sociology will be greatly benefited. All who teach medicine should now give to economics the attention its importance demands.

Medical economics is the division of and contribution to political economy made by and resulting from the practice of modern medicine. Political economy has been defined as that branch of political science or philosophy which treats of the sources and methods of production, preservation and distribution of the material wealth and prosperity of nations.

The professional and industrial life of the ancient Greek, ethics and the untrained mind prevented the evolution of economics into a science. Plato, Xenophon and Aristotle were the only economic writers of ancient Greece, and they were of little moment. The influence of Christianity under the narrow interpretation of a much later period added, rather than removed, obstructions.

Medical economics may be considered under two heads: (1) the physician and his colaborers; (2) the benefits of their collaboration on commerce and the distribution of those benefits. The qualities of mind and actuating principles of the student of medicine are of first consideration, and preparation is necessary to make him a perfected part of the organization before he is ready to enter the practice of medicine.

The correct purposes of organization are stated in the constitution of our state association. If the state association is to render the best services the individual members must be prepared to perform duties harmoniously. If members, through our failure to teach economics, become a disgrace and a burden, the state and the nation lose and we ourselves are to blame. The healthy, happy, intelligent citizen whose physical as well as financial interests have been properly safeguarded by his state or national government is the real unit of value in the assets of that government.

We must learn the economics of our profession and how to practice it before we can teach our governments true conservation, and influence them to overturn the false theories now entertained. We must learn it in order to value our own services and be prepared to ask and receive the financial support our duties and our lives demand. We must learn it in order that, when our government turns from the false theory of economics that has developed only a few pseudophilanthropists, we may present a vast army of the true variety.

We must learn medical finance and how to apply it, medical waste and how to avoid it, that we may grow to our full professional stature, promote the interest and magnify the beneficence of our organization, and render to the state and nation, through the conservation of the lives, health, happiness and prosperity of its people, the thousandfold reward that it will be our delightful mission to give.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Capitol, Montgomery, July 9. Chairman, Dr. W. H. Sanders.

CONNECTICUT: Regular, City Hall, New Haven, July 9-10. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, July 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue; Eclectic, Hotel Garde, New Haven, July 9. Sec., Dr. T. S. Hodge, 19 Main Street, Torrington.

INDIANA: Room 57, State House, Indianapolis, July 9-11. Sec., Dr. W. T. Gott.

MAINE: State House, Augusta, July 16-17. Sec., Dr. Frank W. Searle, 776 Congress Street, Portland.

MASSACHUSETTS: State House, Boston, July 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

NEW HAMPSHIRE: State House, Concord, July 9-10. Regent, Mr. H. C. Morrison, State Library.

NEW MEXICO: The Capitol, Santa Fé, July 8-9. Sec., Dr. J. A. Massie.

OKLAHOMA: Oklahoma City, July 9. Sec., Dr. J. W. Duke, Guthrie.

RHODE ISLAND: State House, Providence, July 11. Sec., Dr. Gardner T. Swarts.

SOUTH DAKOTA: Deadwood, July 10. Sec., Dr. L. G. Hill, Watertown.

VERMONT: Burlington, July 9-11. Sec., Dr. W. Scott Nay, Underhill.

WEST VIRGINIA: Capitol Bldg., Charleston, July 8-10. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 9-11. Sec., Dr. John M. Beffel, 3200 Clybourn Street, Milwaukee.

Florida May Report

Dr. J. D. Fernandez, secretary of the Florida Board of Medical Examiners, reports the written examination held at Jacksonville, May 6-7, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 68, of whom 54 passed and 14 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1911)	88
Atlanta School of Medicine	(1909)	75; (1912) 76, 78, 82
Atlanta College of Physicians and Surgeons	(1911)	81; (1912) 75, 75, 75, 75, 77, 89, 94, 94.
Southern College of Medicine and Surgery	(1912)	75, 88, 96
Rush Medical College	(1910)	91; (1912) 92
Hahnemann Med. College and Hospital, Chicago	(1888)	75
Bennett Medical Colege	(1880)	75; (1912) 93
University of Louisville	(1911)	75, 81
Hospital College of Med., Louisville	(1897)	75; (1905) 75
Louisville National Medical College	(1912)	75
Tulane University of Louisiana	(1910)	90; (1911) 85
University of Maryland	(1866)	75
Baltimore Medical College	(1892)	75
College of Physicians and Surgeons, Baltimore	(1911)	91
College of Physicians and Surgeons, Boston	(1906)	79
University of Michigan, Dept. of Med. and Surg.	(1868)	75

Missouri Medical College	(1876)	75
Barnes Medical College	(1911)	75
University of Nebraska, College of Medicine	(1889)	75
University of Buffalo	(1866)	75
Cincinnati College of Medicine and Surgery	(1905)	75
Jefferson Medical College	(1910)	80
University of Pittsburgh	(1910)	82
Medical Coll. of the State of South Carolina	(1911) 75; (1912)	75
Meharry Medical College	(1912)	82, 84
University of West Tennessee	(1912)	75
Vanderbilt University	(1889) 75; (1911)	82
Lincoln Memorial University, Knoxville	(1910)	82
University of Nashville	(1903) 82; (1907)	77
Chattanooga Medical College	(1896)	84
University of Toronto, Ontario	(1892)	92
University of Palermo, Italy	(1900)	75

FAILED

Atlanta College of Physicians and Surgeons	(1911)	57
Atlanta School of Medicine	(1912)	67
Louisville National Medical College	(1910)	41
Hospital College of Medicine, Louisville	(1890)*	
Barnes Medical College	(1898) 51; (1903)	48
Missouri Medical College	(1880)	56
Leonard School of Medicine	(1910)	60
Ohio-Miami Medical College	(1910)	60
Knoxville Medical College	(1909)	46
Univ. of West Tennessee	(1910) 44; (1911) 58; (1912)	58
University of Tennessee	(1909)	54

* Withdrew after the first paper.

The following questions were asked:

ANATOMY

1. Locate the fascia lata. 2. Name the bones of the wrist. 3. Name the bones of the larynx. 4. Describe the portal circulation. 5. Describe the chambers of the eye. 6. Name all the organs in the peritoneal cavity. 7. Define articulation. Symphysis synchondrosis. 8. Name and locate the ductless glands of the body. 9. What is the prostate gland, Cowper's gland, Bartholin's gland, carunculæ myrtiformes? 10. What structures would be divided in a cross-section of the body at the seventh cervical vertebra? At the sacrococcygeal juncture?

PHYSIOLOGY

1. What is the difference between anabolic metabolism and katabolic metabolism? 2. What are fats and how are they digested and carried into the circulation of the blood? 3. What are the chief constituents of normal fresh urine? 4. Describe the locations at which the different sounds of the heart can be heard the plainest, and what produces each sound. 5. What is meant by normal blood-pressure and how is it ascertained? 6. Why does the normal temperature of the body remain the same in hot weather as it does in cold weather? 7. What are the functions of the liver? 8. What are proteids and which of the digestive ferments act on them? 9. Describe the respiration and what keeps it going? 10. What are leukocytes? Their composition, and describe their functions and actions in the living body.

SURGERY

1. Give etiology, symptoms and treatment of cholelithiasis. 2. Give etiology, diagnosis, symptoms and treatment of abscess of liver. 3. Differential diagnosis of carcinoma from sarcoma of mammary gland. 4. Symptoms and treatment of laceration from the middle meningeal artery. 5. Give etiology and treatment of torticollis. 6. Give varieties of hip-joint dislocation. 7. Give classification and treatment of fistula in ano. 8. Give symptoms of floating kidney and describe *in toto* the radical operation. 9. What is known as fracture by "Contre Coup?" 10. Give symptoms and treatment of floating semilunar cartilage of the knee-joint.

GYNECOLOGY

1. Describe the Sims' position. 2. What is meant by the term menstruation, and what are the two theories as to its relationship to ovulation? 3. Name the two general classes of amenorrhea, and give some of the causes under each class. 4. Give causes, symptoms and treatment of metrorrhagia. 5. Give symptoms and treatment of vaginismus. 6. Name the most frequent of the uterine displacements. Give treatment of such displacement. 7. Give diagnostic points in small uterine fibroids. 8. What three lines of investigation must be considered in making diagnosis of uterine cancer? 9. Give causes, diagnosis and treatment of cystitis. 10. Give symptoms and treatment of movable kidney.

MATERIA MEDICA—THERAPEUTICS

1. Mention three classes of evils which may result from chemical incompatibilities in prescriptions. Write such a prescription. 2. How does cold reduce temperature, and how best applied? 3. Name four classes of medicines, with an example of each class, and give dose of example. 4. Name five antiseptics and tell in what proportion each should be diluted for surgical purposes. 5. Name the mineral tonics. Write a prescription containing the most useful. 6. An anesthetic being indicated, state the conditions that render ether preferable and those that render chloroform preferable. 7. Mention some of the indications and contra-indications in your use of ergot. 8. Where is the habitat and what are the physiologic effects of digitalis? 9. Name three drugs used in the treatment of malarial fever. State how each controls this disease. 10. Give the theory of the alkaloid treatment of rheumatism.

OBSTETRICS

1. Give diagnosis of pregnancy. 2. Describe the fetal circulation. 3. Describe pelvimetry and give the normal pelvic measurements. 4. How would you treat a case of placenta prævia? 5. Give etiology, pathology and treatment of puerperal eclampsia. 6. Give etiology, prophylaxis and treatment of ophthalmia neonatorum. 7. Describe the care of a new-born babe. 8. Give treatment of postpartum hemorrhage. 9. Define involution and give causes for subinvolution. 10. Describe the menopause and give some conditions peculiar to that period.

CHEMISTRY

1. What use is made of the syllables *ous* and *ic*, *ite* and *ate* in distinguishing compounds from each other? 2. Express the chemical equation resulting from a mixture, in solution, of sodium carbonate and calcium chlorid. 3. Describe the flame test for potassium, sodium and cuprum (except cupric and cuprous compounds). 4. Give treatment, in detail, for acute phenol (carbolic-acid) poisoning. 5. Describe symptoms of acute belladonna poisoning and give treatment. 6. Describe symptoms of acute cocain poisoning and give treatment. 7. Describe chyluria and how recognized. 8. Describe the metallic copper test for arsenic. 9. What are the physical properties of phosphorus?

Massachusetts May Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written, practical and oral examination held at Boston, May 14-16, 1912. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 40, of whom 20 passed, including 1 osteopath and 1 non-graduate, and 20 failed, including 6 osteopaths and 4 non-graduates. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1912)	75
College of Physicians and Surgeons, Baltimore	(1911)	75.7
University of Michigan, Dept. of Med. and Surg.	(1901)	80
Harvard Medical School	(1908) 77.6; (1910) 79.2, 81.8; (1911) 76.4, 85.7.	
College of Physicians and Surgeons, Boston	(1911)	75, 75
University Medical College, Kansas City	(1907)	75
Dartmouth Medical School	(1912)	78.2
Columbia University, Coll. of P. and S.	(1902)	79.8
New York Homeopathic Med. Coll. and Hospital	(1905)	78.9
Hahnemann Med. Coll. and Hospital, Philadelphia	(1909)	75
Jefferson Medical College	(1911)	79.2
Dalhousie Medical College, Halifax	(1911)	75.3
McGill University, Quebec	(1873)	80

FAILED

Harvard Medical School	(1911)	67.7
College of Physicians and Surgeons, Boston	(1907) 66.2; (1908) 61.3.	
Dartmouth Medical School	(1912)	58.4
University of Vermont	(1911)	70.6
University College of Medicine, Richmond	(1907)	65.7
Laval University, Quebec	(1911)	60.8, 72
University of Naples, Italy	(1910)	67.9
University of Athens, Greece	(1898)*	

* Did not complete examination.

Book Notices

LATERAL CURVATURE OF THE SPINE AND ROUND SHOULDERS. By Robert W. Lovett, M.D., Assistant Professor of Orthopedic Surgery, Harvard Medical School. Second Edition. Cloth. Price, $1.75. Pp. 192, with 171 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

This is a second edition, the first having been published in 1907. In addition to revising the material contained in the first volume, a chapter on school life and scoliosis has been added. Those familiar with Dr. Lovett's book will need no further endorsement of the second edition. The mechanical preparation of the book is better than the average, being well printed on good paper, copiously illustrated and firmly bound.

WHO'S WHO IN AMERICA. A Biographic Dictionary of the Notable Living Men and Women of the United States. Edited by Albert Nelson Marquis. Volume 7, 1912-1913. Cloth. Price, $5 net. Pp. 2640. Chicago: A. N. Marquis & Company.

In the seventh edition of this standard biographic dictionary, the same high grade of work is continued. The data have been thoroughly revised and brought down to date. The publishers state that 2,928 new sketches have been added. New features of the work are the geographic index which occupies 151 pages and an index of educational announcements which takes up four pages, both of which are valuable additions.

HEALTH AND MEDICAL INSPECTION OF SCHOOL CHILDREN. By Walter S. Cornell, M.D., Director of Medical Inspection of Public Schools, Philadelphia. Cloth. Price, $3. Pp. 614, with 200 illustrations. Philadelphia: F. A. Davis Company, 1912.

Systematic inspection of school children and organized efforts on the part of the state or the municipality to improve the physical condition of pupils in the public schools have developed so rapidly in the last few years as to outstrip the preparation of scientific text-books on the subject. In fact,

text-books would not be possible until experiments, observation and experience had furnished material on which to base them. Summaries of the work already done have been issued by governmental bureaus and philanthropic organizations. These, however, are reports of progress in legislation and organization rather than text-books which can be followed by those lacking in experience and wishing to take up this work. Dr. Cornell's book is based on practical experience as a school medical inspector. Its contents are divided into three parts, viz., "Medical Inspection," "Hygiene" and "Defects and Disease."

Under the first heading, administration questions are discussed, such as the selection of inspectors, frequency of visits, the methods of systematic examinations, keeping of records, correction of defects, cooperation of teacher and parent, the school nurse, school meals and lunches, open-air schools and schools for special classes of pupils. The final sections of this first division deal with the results of medical inspection, and with the present status of medical inspection in the United States.

The second section of the book is devoted to hygiene, which is naturally divided into school hygiene and personal hygiene. In the third part of the book, defects and diseases are taken up under the following headings: the eye, the nose and throat, the ear, the teeth, the nervous system, mental deficiency, the skeleton, nutrition, the skin, the speech, and contagious diseases. A chapter on the prevalence of defects and diseases contains a large amount of valuable statistical matter. Dr. Cornell has made an important contribution to the literature of school inspection. His book cannot be overlooked by anyone interested in medical inspection of schools.

Medicolegal

Employer Liable Under Contract for Expenses of Medical Treatment

(Jackson vs. Pacific Coast Condensed Milk Co. (Ore.), 120 Pac. R. 1)

The Supreme Court of Oregon affirms a judgment for the plaintiff for expenses of medical or surgical treatment and of *x*-ray photographs. It appeared that the plaintiff, on June 28, 1908, broke his left leg, while he was in the employ of the defendant. He, however, did not realize that there was a fracture, although it caused him great suffering, and continued at his work for several days, complaining at different times to the boss. He consulted a man whom he understood to be the company's physician, and was given some liniment for external application. He also reported to the book-keeper that he had consulted him, and was told that it was all right. But his condition continued to grow worse, and, in August, 1908, being unable to work, he consulted another physician, who pronounced the injury a fracture and set it in splints. Still there was not much improvement until May, 1909, when he consulted a third physician, who operated on the bone to induce it to unite. The plaintiff's contract of employment provided for a deduction of 50 cents per month for a hospital fund, as it was termed, and the company paid all bills incurred by him for medical treatment prior to Nov. 27, 1908, but refused to pay the bills which he subsequently incurred, and sued for, contending that he chose his own physician and that it should not be held liable as he did not apply to it for treatment.

The court holds that the employment of the plaintiff and the payment from his wages of 50 cents per month, together with a stipulation in the by-laws of the hospital fund association, as it was called, that all employees of the company, at its factory, should be considered members, etc., made a complete contract whereby the company undertook to furnish him medical attendance and drugs without expense to him in case of sickness or injury, the company having admitted that the hospital fund was not a separate fund or organization, but was in its hands. In this case there was a contract and sufficient money available in the hospital fund, but no hospital and no medical attendant offered or available, and the plaintiff was justified in seeking the necessary medical attention. It was true that the plaintiff did not say that he gave the company formal notice of the injury or asked for a physician, but his superiors knew of the injury at the time it was received, and that it was serious, on account of which he was unable to perform regular work, and that he was receiving medical treatment. The company had no hospital and did nothing toward furnishing him needed attention, and he was justified in seeking proper medical aid, the expense of which should have been paid out of the hospital fund. The company recognized this fact in paying the first bills for medical service and the expense of three *x*-ray photographs of the fracture, thus approving of the plaintiff's act in choosing his own physician.

Physicians Appointed to Make Physical Examinations Cannot be Compelled to Report to Court—Restrictions on Appointing Power—Position of Physicians

(Mizak vs. Carborundum Co. (N. Y.), 132 N. Y. S. 1104)

A special term of the Supreme Court of New York, Niagara County, holds that physicians appointed by order of the court to make a physical examination of the plaintiff before trial cannot be compelled to file a report of such examination, although the statute provides that the examination shall be had under such restrictions as to the court shall seem proper.

This examination, the court says, is not an absolute right. It must appear that the defendant is "ignorant of the nature and extent of the injuries complained of." The court must protect the plaintiff from disreputable or objectionable handling. A woman plaintiff may not be required to submit to an examination except by physicians and surgeons of her own sex. When the nature of the proposed examination, as by the administration of anesthetics or drops of atropin in the eye, might possibly endanger the plaintiff's health, the court will not require the hazard to be taken if the plaintiff objects. Other directions and restrictions as to the making of the examination may be imposed. But, subject to these qualifications, the defendant should be permitted to have his own physicians or surgeons, the persons he would rely on to aid him in the trial, make the examination, providing they are reputable and not personally objectionable to the plaintiff.

The plaintiff's physicians file no report, are subject to no examination before trial, do not disclose their knowledge or information to the defendant without the plaintiff's consent. They give their evidence in court on the trial. A defendant in a negligence case may not be compelled to disclose before trial what the physical examination of the plaintiff by his physicians reveals, any more than the defendant may be compelled to disclose what he expects to prove by his other witnesses. Equality in this respect is fair. The real purpose of the examination is to discover to the defendant the nature and extent of the injuries complained of.

Nor can the appointed physicians be compelled, as officers of the court, to make a report to the court. They take no oath of office and have no statutory fees. While the court may, in its discretion, designate physicians and surgeons not nominated by the defendant, they are under no duty or obligation to act until the defendant employs them to make the examination. Thus they necessarily become the employees of the defendant before the act, and, when they act, it is in that capacity. As the very object of the statute would be defeated if they did not thoroughly make the examination and freely and fully impart to the defendant the results thereof, they should be satisfactory to the defendant, provided always that there are no objections to their personal character or professional standing or to their availability in a given case.

Under the terms of the statute the experts are not required to reduce anything to writing. No provision is made for a record by any one. Common practice in these cases seems to sustain the rule that the knowledge acquired by the physician during the examination is no different from that acquired by a physician who examines a patient under other circumstances, and any party can procure the testimony of this physician by calling him on the trial.

Society Proceedings

COMING MEETINGS

Michigan State Medical Society, Muskegon, July 10-11.
Minnesota State Medical Association, Duluth, Aug. 14-15.
Washington, Idaho and Oregon associations, Portland, July 5-8.
West Virginia State Medical Association, Webster Springs, July 10-12.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Seventh Annual Meeting, held at Baltimore, May 29-30, 1912

The President, DR. HOWARD A. KELLY, Baltimore, in the Chair

A list of the new officers was published in THE JOURNAL, June 15, p. 1867.

Menstruation Without Ovaries

DR. PALMER FINDLEY, Omaha, Neb.: A woman had both ovaries removed; menstruation recurred at regular twenty-eight-day periods for one year and a half, at which time I opened the abdominal cavity and resected an adherent omentum from the fundus of the uterus and broke up numerous pelvic adhesions. I was unable to find any trace of ovarian tissue. Seven months have intervened since this operation, and the patient continues to menstruate at regular intervals of twenty-eight days, and in the usual amount. I am inclined to believe that there exist some undiscovered portions of ovarian tissue.

DISCUSSION

DR. J. CLARENCE WEBSTER, Chicago: All of us have had the experience of hemorrhage occurring after the removal of the ovaries; we have even had the experience of hemorrhage occurring from the cervix after the removal of the body of the uterus. I believe that a considerable percentage of these cases in which the hemorrhage is irregular, may be explained either by the vascular degenerations in the uterine or ovarian arteries or in both, or in varicose veins of the broad ligaments. I recall only one case in my experience in which a regular flow suggestive of menstruation occurred after castration. I do not believe that Gellhorn's suggestion of adhesions is explanatory of such cases. When one considers the course the ovary takes in its development, it is not surprising that there should be small portions, invisible, perhaps, to the naked eye, left along the tract, and therefore it is not surprising that the menstrual habit may be kept up for years where there was thought to be complete castration, or even pregnancy might occur.

DR. HENRY T. BYFORD, Chicago: I recall a patient from whom I removed the uterus and ovaries, and who said that she continued to menstruate. On careful examination I found it was not exactly every month that this discharge began. She would have a little discharge between times. I told her to lie down a good deal, and if the discharge continued she was to return to see me. She wrote me that she was menstruating; that she would have a discharge at one time at the end of three and a half weeks, at another time at the end of four weeks. I told her to pay little or no attention to the little flow between times. There are a great many cases that are not menstrual in type, that is, they have not the menstrual periodicity. Adhesions interfere with the circulation by increasing it or damming it up, thus producing a bloody flow from the uterus, but this is not menstruation.

DR. J. M. BALDY, Philadelphia: The doctor's as well as the patient's statement is unreliable as regards menstruation. A notable New York surgeon transplanted ovarian tissue and called the discharge that followed menstruation. It was a mere show of blood, which disappeared in a short time.

DR. EDWARD P. DAVIS, Philadelphia: Recent studies to settle the vexed question of the time of labor throw light on the subject under discussion. It is found that the physiologic life of woman consists in periods of accumulation of blood terminating in increased pulse tension and in hemorrhage; that this condition is independent of the presence of genital organs, that is, the genital organs may be removed, and this established physiologic habit still continue. In some cases the persistence of this discharge and increased pulse tension is the result of disorder of the ductless glands, and some patients are improved by the administration of thyroid or pituitary extract or epinephrin. This will explain some of the cases in which the removal of genital organs has been followed by continued hemorrhage. The hemorrhage will occur from a physiologic standpoint in any organ lined by mucous surface and richly supplied by capillaries.

DR. CLEMENT CLEVELAND, New York: I had a case some years ago in which it was reported that both ovaries had been removed, and still the woman menstruated. The patient came into my service, and I looked up the history. There was a miscarriage at the fourth month. The history showed that both ovaries had been entirely removed. I have very little faith in the functional activity of supernumerary ovaries, and I came to the conclusion that in most cases the discharge is due to a small portion of the ovary having been left behind. I was very positive it was in this case.

In another case I removed two ovarian cysts of considerable size from a woman from whom I had removed the right ovary completely. I found I could leave a portion of the left ovary about the size of a pea. This woman had already borne several children. She had menstruated regularly, and if there is one period during the last two years which she has skipped for two months, that is all. She is now menstruating regularly. I have examined her from time to time. There has been no decrease in the size of the uterus; her menstrual function is apparently perfectly normal, and there is no indication of the menopause.

DR. SETH C. GORDON, Portland, Me.: I have reported two cases in which women bore one child each about a year and a half after as careful a removal of both ovaries as possible.

A Simple Method of Shortening the Uterosacral Ligaments

DR. GEORGE H. NOBLE, Atlanta, Ga.: To prevent retroversion the body of the uterus is held forward by shortening the round ligaments, and I prefer an extraperitoneal operation, imbedding the ligaments between the layers of the aponeurosis anterior to the recti muscles.

The Use of the Continuous, Fixed Laparotomy Sponge

DR. W. FRANCIS B. WAKEFIELD, San Francisco: A sufficient number of surgeons throughout the country have used the continuous laparotomy sponge a sufficient length of time to prove conclusively that abdominal operations can be efficiently performed without the use of the dangerous loose sponge.

DISCUSSION

DR. GEORGE GRAY WARD, New York: For the past five years I have been using a continuous sponge in the form of a roller bandage, about 3 yards long and about 6 inches wide, folded in four or five thicknesses of gauze.

DR. JOHN F. THOMPSON, Portland, Me.: At our hospital, the sponges are counted by two nurses before and after operation.

DR. J. WESLEY BOVÉE, Washington, D. C.: The plan I follow is to have a tape attached to each sponge. If one uses five or six sponges in the abdomen with a tape on each, the tape being clamped with forceps, one knows how many are put in and when they come out. I would rather trust my own count than be responsible for the count of one or two nurses.

DR. BROOKS H. WELLS, New York: Even the tape may go astray. In the only case I recall in which a sponge was left inside the abdomen, the sponges were carefully counted before and after operation by a nurse, and they were all supposed to have tapes sewed on them with a weight on the end of the tape.

DR. GEORGE H. NOBLE, Atlanta, Ga.: Sometimes in appendicitis cases I use a long strip of gauze, but when it comes to the sponges I use one at a time, taking it out as soon as it is put in. There is a string attached to the sponge. This is the safest plan to follow in using sponges in the abdominal cavity.

DR. BENJAMIN R. SCHENCK, Detroit: The method we have followed at the Harper Hospital is to use large abdominal towels, using no sponges at all in abdominal operations. There is only one safe method, and this is the continuous attachment of the sponges, as described by Dr. Wakefield.

DR. FRANK T. ANDREWS, Chicago: I use small sponges, which are carefully counted and labeled. Sometimes I use a 6-foot strip with a nickel ring attached to the end of a 2-foot tape.

DR. BROOKE M. ANSPACH, Philadelphia: At the University Hospital, Philadelphia, we do all isolating by means of gauze taken from a long roll, using two or three thicknesses. The roll is probably 4 or 5 feet long, so that there is only one piece used to pack off the intestines and isolate the operative area. Twelve sponges are used for exposed bleeding points, and these are carefully counted, but as soon as bleeding ceases, they are removed.

Ptosis

DR. FRANKLIN H. MARTIN, Chicago: The treatment of ptosis which I employ consists of posture, temporary supports, exercise of the muscles and correction of postural habits, fresh air and feeding.

DISCUSSION

DR. W. FRANCIS B. WAKEFIELD, San Francisco: I have been using a course of treatment for the last two years almost identical with that described by Dr. Martin, and the results have been extremely satisfactory. Surgeons are short-sighted if they allow women who advertise physical culture treatment in the popular lay journals to treat such patients. One can take an intelligent nurse and train her to understand the principles of the application of such treatment and to make use of it intelligently, and it is better to take the necessary pains to do this and take these cases out of the hands of those outside of the profession. The means of cure will be found very useful.

DR. CLEMENT CLEVELAND, New York: The posture referred to by Dr. Martin is not the Trendelenburg, but merely an inclined posture with the head downward. The Trendelenburg posture requires relaxation not only of the abdominal muscles, but of the psoas muscles. In order to get this, it is necessary to flex the thighs on the pelvis with easy lifting. The only table which will do this is named after myself, and it has been in existence for years.

DR. RICHARD R. SMITH, Grand Rapids, Mich.: These women come to the gynecologist in the great majority of cases in a state of fatigue. A woman who is enteroptotic, who is leading a life within her strength, does not suffer at all, but goes about and does her work, and takes her part in society with other women. She has a certain amount of vitality, but she gives out more easily. The keynote of the situation is that she needs rest, both physical and mental. She needs to improve her nutrition, which means better food, fresh air, or whatever other means we may employ. Mechanical measures will help incidentally, and if one can employ them in conjunction with the other things, surprising results may be obtained.

DR. WILLIAM S. STONE, New York: I find walking to be one of the best forms of exercise. If the principles are carried out, it means exercise and rest. A specific way of doing that is to tell these patients to take a walk and walk a little further than they want to, and they should take the walk at such time, so that when they reach home, without doing any york, either physical or mental, they can lie down on the bed or sofa for the same length of time that is consumed in taking the walk. They should be trained to carry out regular exercises, which should be followed by rest. In addition to that, I rely on a good, brisk, careful rub.

The Torsion of Tubal Enlargements with Reference especially to Pyosalpinx

DR. BROOKE M. ANSPACH, Philadelphia: A woman, aged 26, entered the hospital with symptoms of acute appendicitis. Operation revealed torsion of the right tube and ovary. The tube was distended and filled with pus. The ovary was closely applied to the tube. The mass was purplish-black in color, and almost entirely free of adhesions. Tuberculosis was suspected as the underlying cause of the pyosalpinx, but the histologic examination did not confirm the opinion. Two years later the patient returned for another operation and the left tube was found to be tuberculous. It was considerably enlarged and evidently represented the condition of the right tube before torsion had occurred. Histologic examination showed typical miliary tubercles.

The variety of tubal enlargement which most frequently undergoes torsion is a hydrosalpinx. Ectopic pregnancy and cysts originating in the tube itself and malignant tumors are other causes. There are twelve cases of twisted pyosalpinx reported in the literature. A considerable portion of these were proved to be tuberculous, and it is likely that tuberculosis is the cause of at least half of the reported cases.

(To be continued)

MISSOURI STATE MEDICAL ASSOCIATION

Fifty-Fifth Annual Meeting, held at Sedalia, May 21-23, 1912

The President, DR. ROBERT H. GOODIER, in the Chair

For a list of the officers elected see THE JOURNAL, June 8, p. 1763.

Recognition and Treatment of the Early Manifestations of Mental Diseases

DR. C. R. WOODSON, St. Joseph: If manifestations of mental diseases are recognized early the percentage of recoveries is increased, the mortality lessened, the cost of maintenance reduced and the terminal dements fewer. Preventive medicine is as applicable to mental diseases as it is to any branch of medicine. The use of hypnotics to produce sleep in insomnia should be condemned, as they tend to increase nervousness and do not produce natural sleep, nor have the same effect on the same person in consecutive doses. Rest, diversion and proper up-building will give far better results.

Fractures of the Larynx

DR. W. E. SAUER, St. Louis: A laryngofissure is superior to a tracheotomy, not only as an immediate measure for saving life, but in preventing adhesions between the walls of the larynx which may result in a permanent stenosis. A boy of 14 was kicked on the neck by a horse. At the time of the accident the patient coughed up large quantities of blood, and soon noticed a difficulty in breathing, with hoarseness. These symptoms grew gradually worse, until he could speak only in a whisper and could breathe with difficulty. I did not see this boy until six weeks after the injury. He had lost considerable weight and presented the general appearance of a tuberculous patient. There was a marked stridor and he was compelled to walk very slowly in order to get sufficient air. There was a marked flattening over the pomum Adami, and a distinct depression could be felt over the left thyroid cartilage. The patient was absolutely aphonic. Examination with the laryngeal mirror revealed the interior of the larynx almost closed, with the exception of a small opening through which a small probe could be passed. A tracheotomy was done. Owing to the run-down condition of the patient it was thought advisable to wait before doing a laryngofissure. The latter was done a few weeks later. In the interior of the larynx there was a mass of scar tissue. The vocal cords could not be distinguished; some of this tissue was removed, and the skin was stitched to the mucous membrane.

A soft rubber tube was inserted into the larynx and the wound was packed with gauze; the dressing was changed daily, inserting a larger tube each time; by this means a gradual dilatation of the larynx was effected. At the end of two months the external wound was closed. The largest size O'Dwyer intubation tube could be inserted into the larynx with ease. The patient was able to breathe normally and

was able to make himself understood, although his voice was hoarse. His voice has been gradually improving with no evidence of a return of the stenosis.

Multiple Primary Carcinomas of the Jejunum

DR. F. W. BAILEY, St. Louis: My patient, 53 years old, complained of attacks simulating stomach ulcer. He gave a history of indigestion extending over twenty years, alternating with constipation and diarrhea. Stools were black and tarry. There were attacks of slight jaundice on a few occasions; pain was always high in epigastrium. Diet was necessarily limited. The attacks became more severe and frequent. Physical findings were negative, except for dilated stomach. No mass was palpable. Exploration was refused. Patient returned to hospital Feb. 18, 1912, with symptoms of complete pyloric stenosis, extreme emaciation and continuous vomiting. No tumor was palpable until patient was anesthetized. A movable tumor to left of the median line, posterior to the stomach was detected. The exploratory incision revealed the stomach and gall-tract to be free from adhesions and no signs of tumor or ulceration. Stomach was greatly distended. The pylorus admitted three fingers. The duodenum was 3 inches in diameter, the walls greatly thickened. This dilatation led to a point 18 inches below the ligament of Treitz, where an orange-sized mass was found and delivered. The jejunum being still dilated, it was traced to another tumor, slightly smaller, 4 feet below the first. No palpable evidence of any other visceral involvement. Rapid double resection was done using suture above and Murphy's button below, being careful to remove the large glands. Patient reacted nicely and left hospital in good condition twenty-two days later. Patient is steadily gaining, and is free from all intestinal symptoms. Pathologic diagnosis adenocarcinoma. Small intestine metastatic carcinoma.

Some Observations on Movable Kidney

DR. H. C. CROWELL, Kansas City: It is begging the question to attribute all the manifestations noted in connection with a movable kidney to neurasthenia, although most of these patients are neurasthenic, because of the disturbance produced by the position of the kidney, which can and should be corrected in the full confidence of very marked if not absolute relief of the symptoms, if no other agent is operating to defeat such a result. The claim that tight lacing acts to produce the condition is challenged as being far-fetched and incapable of demonstration. On the contrary, it can be demonstrated that properly fitted corsets serve better than bandages in holding the kidney in place, though I have no confidence in either as even a satisfactory factor in bringing relief. Neglect and temporizing treatment bring only reflection on those who employ either. Operative treatment by fixation has given reasonably satisfactory results. Patients so treated have regained their lost flesh, the thing most desired, but rarely realized, by those who palliate only. There are some patients who have not only a falling kidney, but a general enteroptosis. It must be admitted that in some of the long-standing cases the patients do not satisfactorily recover from the neurasthenic habit into which they have fallen, but so universally have I seen some benefit accruing that I have no apologies to offer for recommending a fixation.

Single Incisions in Vaccination

DR. GEORGE DOCK, St. Louis: Single incisions are made either with a scalpel or with a vaccine point. The operation should be as aseptic as possible. Antiseptics are not necessary and are very likely to interfere with the "take." Protective dressings are not necessary, but if the clothing and habits are such as favor accidental infection, a thin, dry, sterile gauze may be used.

Empyema in Infancy

DR. JULES M. BRADY, St. Louis: Empyema in early life, owing to its frequency and to the fact that it is often not recognized, assumes very great importance. Next to exploratory puncture, the sense of marked resistance imparted to the percussing finger and the displacement of the heart are the most valuable signs. The fact that the recognition of the true condition followed by proper treatment almost invariably rescues the child, if over 2 years of age, from almost certain death, demands that physicians caring for children be on the watch for this complication. In the case of a breast-fed baby, aged 6 months, it was learned that the baby had been well up to six weeks before. At that time it took sick suddenly with pneumonia. After a desperate illness of nine days the fever abated. Ever since the baby has been losing weight; at the time of examination it presented the picture of marasmus. Of special interest was the presence of Brudzinski's neck sign, which in an acute disease is strong evidence in favor of meningitis. The fontanelle was level and there was no other sign pointing to this complication. Under local anesthesia the seventh intercostal space was incised in the posterior axillary line and two rubber drainage-tubes were inserted. Six days after operation the neck sign of Brudzinski could not be elicited. After four weeks there was still a profuse discharge from the chest wound, and the nutrition had not improved. A resort was then made to pneumococcus vaccine, 400 million being injected every other day for five doses. The result was as prompt as that following the use of staphylococcus vaccine in furunculosis. The problem then was to cope with the nutritional disturbance now that the empyema had been cured. Two feedings of Keller's malt soup, prepared with extract of malt, flour, carbonate of potash and cow's milk were resorted to with prompt improvement; these were later increased to five. In the course of two months the baby had recovered completely.

Acidosis

DR. O. H. BROWN, St. Louis: One certain cause of acidosis is carbohydrate starvation. This causes the body to depend on fat for its energy, and in the course of fat catabolism there result certain fatty acids that are only slowly oxidized, and hence there may accumulate therefrom a harmful quantity of acids, chiefly beta-oxybutyric and diacetic acids. A second cause of acidosis, one recently brought forth by Fischer, is the group of conditions at the basis of nephritis. These may be bacterial toxins, other poisons, cardiovascular disorders, or excessive exercise. The final result is the same in that there is a general interference with the oxidative processes of the cells of the body and an accumulation of waste which, in the main, consists of harmful acid products. Fischer sustains this theory with most convincing experiments and argument. A third cause of acidosis seems possibly to be based on injury of the liver or a perversion of the function of the body ferments. This, however, is mere speculation. So far, the extent of treatment is an administration of sodium carbonate or other alkali and some carbohydrate, if the lack of this has been the cause. Prophylactic treatment is to be aimed for.

Auto-Intoxication

J. M. BELL, St. Joseph: This condition is more frequent than usually credited. It is a concomitant of almost all digestive disturbances, particularly those of impaired motility. It arises from decomposition of animal food and from bacterial activity in the intestine. Indican should serve as an index to the digestibility of meat. When this is present in the urine, animal foods should be reduced until it disappears. Its constant presence creates a condition frequently called chronic malaria. Eczema, psoriasis and acne, unless very chronic and of long standing, may be disposed of by a change from an animal to a fruit and vegetable diet, plus liberal quantities of cold water. When its existence is the result merely of deficient peristalsis, change of diet, with colon irrigation with ichthyol and abdominal massage will dispose of it. When the result of distinct pockets arising from adhesions or ptosis of the intestinal tract, surgery is indicated. The relation between such toxic absorption and thyroid disease and, in fact, that of all the ductless glands is becoming appreciated. While indicanuria is not *per se* a dangerous condition, its persistence indicates a process within the intestinal tract which tends toward invalidism rather than health; a lack of harmony between diet and digestion which lowers resistance and prepares a soil which invites disease.

Chronic Recurrent Septic Endocarditis

DR. L. H. HEMPELMANN, St. Louis: Chronic recurrent septic endocarditis is an affection which develops in persons who have old valvular lesions. The predominating symptom is fever, which persists in spite of all treatment for weeks and even for months, cases lasting four to six months being not unusual and one case of eleven and another of thirteen months being reported by Osler. The course of the fever is usually not quite as regular as we usually see it in typhoid, and there are often occasional chills and sweats. The heart may show absolutely no change for months, there being no demonstrable change in the old murmur and no increase in the dulness or change in the rate of beat that can not be accounted for by the temperature. Emboli frequently occur, their most usual sites being the kidney, spleen, lung, brain or extremities. There is often an early anemia which when taken with the enlargement of the spleen, which is usually present, may lead to the erroneous diagnosis of splenic anemia. Blood cultures are of great value, the organisms most frequently isolated being the pneumococcus, streptococcus and gonococcus. The prognosis is always very grave, fully two-thirds of the patients dying, although recovery, of course with a damaged heart, has been reported even after an illness of six months' duration.

The treatment is mainly hygienic and dietetic, a liberal diet being indicated rather than the liquid or semisolid typhoid diet. Hexamethylenamin, Credé's ointment, quinin, and the like, while worthy of a trial, have in the main been useless. The serums and the vaccines, too, both the autogenous and the stock vaccines, have not given uniform results, most authors reporting unfavorably their use. I have had three cases, one a gonorrheal case, terminating in recovery after an illness of six months, and two fatal cases, lasting three and six months, respectively. The former case was due to a streptococcus but the antistreptococcus serum did not seem to be of any benefit. The last case due to the *Staphylococcus albus* (?) showed no improvement after an autogenous vaccine. In this case, too, there was an embolus of the tibial arteries of the right leg which led to gangrene of the foot extending up to midway between the ankle and the knee.

Experimental Work on Anti-Rabic Immunization with Desiccated Virus

DR. D. L. HARRIS, St. Louis: Employing a modification of the method of desiccation described by Shackell, I have been able to dry fixed virus so that from 30 to 50 per cent. of the infectivity remains after complete desiccation. The essential feature of this method is the freezing of the "virus" with carbon dioxid snow and drying this *in vacuo*, in the presence of sulphuric acid at a temperature of —15 C. The dried material, when kept in a cool dark place, free from moisture, loses its infectivity very slowly. After five months it still shows a virulence greater than the two-day cord of Pasteur. The relative permanence of this material has led to an attempt to "standardize" the virus and to determine the amount of infective "units" which will immunize animals. Experiments have shown that rapid and complete immunity may be established in dogs and rabbits by the injection of this material.

The Value of Beginning Passive Motion Very Early Following Fractures In or Near Joints

DR. CARROLL SMITH and DR. H. S. MCKAY, St. Louis: The after-treatment of fractures is often more important than the primary treatment. A good functional result after a fracture, even with some anatomic defect, is better surgery than a perfect anatomic result with poor function. Immobilized joints may ankylose in a very short time, and since forcible movements cannot be employed to break up joint adhesions for from two to three months after the injury, it is important to prevent adhesions from forming. The early and intelligent use of massage and passive motion is the best way to accomplish this end. The time at which massage should be begun and the amount of motion must be determined by the conditions present. The measures should not be used until primary pain, muscular spasm and swelling have subsided, for if they are used too early, hemorrhage may be kept up, fragments displaced, muscular spasm made worse or fat embolism caused. Too early and too much motion may cause excessive callus or lead to non-union. Massage, properly used, aids absorption of periarticular and joint effusions, prevents atrophy and weakness, hastens healing and lessens joint and tendon-sheath adhesions and ligament contractures. When Lane's bone-plates are used one should remember that softening occurs about the screws used in applying the plate between the fifth and tenth days and that callus does not form so early nor in such amounts as in the older methods of treatment. After about fourteen days, however, the screws are again held firmly and then more or less motion is permissible. Early, careful massage in such cases does no harm and its use is to be recommended.

Several cases are reported to illustrate what may be accomplished by careful, personal attention to the details of after-treatment in fractures.

Thoracentesis as an Aid in the Diagnosis of Pleural and Pulmonary Diseases

DR. W. P. ELMER, St. Louis: I have had four cases in which the diagnosis was facilitated by thoracentesis. 1. Putrid bronchitis with emphysema bronchiectasis and thickened pleura in a child which might have been diagnosed empyema. 2. Lung abscess following amebic dysentery and complicated by enlarged and tender liver, which was first explored for liver abscess; would have had a better chance for recovery had the abscess been drained when it was demonstrated by thoracentesis. 3. Putrid bronchitis with bronchiectasis and acute pleurisy with effusion; would have been operated for empyema but for the result of the thoracentesis. 4. Putrid bronchitis with pleural thickening in an adult; was rendered more confusing by the *x*-ray which showed a shadow resembling a cavity which, however, could not be located with the needle and which did not change with improvement of the patient. It may be contended that the thoracentesis was in itself a therapeutic procedure in some of these cases and that in reality empyema was present in these cases with thickened pleura. The therapeutic effect of thoracentesis cannot be denied, but the thoroughness with which the explorations were performed, reduces the chances of mistake though it does not eliminate them.

AMERICAN PEDIATRIC SOCIETY

Annual Meeting, held at Hot Springs, Va., May 29-31, 1912

(Continued from page 2047)

Inclusion Bodies in the Blood of Scarlet Fever as a Means of Differential Diagnosis

DR. MATTHIAS NICOLL, JR., New York: With the purpose of testing Dohle's findings, I have studied blood-smears from fifty-one scarlet fever patients, together with twenty-five controls, with the result that forty-five scarlet fever patients showed inclusion bodies such as Dohle has described, and six failed to do so. In the great majority of the positive cases the patients had been sick a week or less. The inclusion bodies were found chiefly in the polynuclear leukocytes and varied in size and shape from small coccus forms to large irregular masses one-fifth the size of a red blood-corpuscle. Bacillary forms were also seen. With Manson's stain the nuclei take on a deep blue color, the cytoplasm a faint blue, and the inclusions a tint between the two. With the Giemsa stain, the inclusions take on a clear delicate blue identical with that of plastin, and the nuclei color magenta. For satisfactory examination it is essential to take a small drop of blood and spread it out evenly and thinly so that the leukocytes will not be distorted or cramped between red blood-cells or groups of other polymorphonuclears. The smear is fixed in methyl alcohol, thoroughly washed and stained with Manson's stain, for ten seconds to one-half a minute. It is then washed and examined with the oil immersion. It seems that we have in the blood examination of suspected scarlet fever patients an extremely valuable method of differential diagnosis between this disease and nearly all of the conditions which resemble it.

DR. CHARLES G. KERLEY, New York: Four years ago two children came down on the same day with a rash like that of scarlet fever but very atypical. I sent two slides to Dr. Nicoll with the request that he tell me whether they were cases of scarlet fever. One case was reported positive and the other negative. In the case reported positive the rash disappeared in several days and desquamation took place, while in the case reported negative there was no desquamation.

DR. MATTHIAS NICOLL, New York: We have made an attempt to see how long these bodies will last and find that they disappear in from five to twenty-eight days. I have had many very interesting experiences in the differentiation of scarlatiniform rashes. Many of the cases are not at all suspicious because the temperature is so low. The cases in which there is no desquamation are undoubtedly German measles.

Studies in Metabolism of Amaurotic Idiocy

DRS. HENRY HEIMAN, SAMUEL BOOKMAN and BURRILL B. CROHN, New York: In two cases of typical amaurotic family idiocy, the first patient, 15 months of age, and the second, 7 months, tables showing the daily averages of intake and output of nitrogen, sulphur, phosphorus and chlorin, and also tables showing the daily average percentage of intake and the absorption percentage of intake show the fact that absorption from the gastro-intestinal tract and retention within the body was normal or even better than normal. A close scrutiny of the figures for the intake and output of phosphorus and sulphur do not disclose a marked disturbance in the metabolism of these constituents. One can understand this when one takes into account the very slow process of degeneration and the small actual amount of phosphorus and sulphur in the entire cerebrospinal system. It is advisable, therefore, to study the disease at intervals during its course, both in its earlier stages, in which anabolic changes predominate, and in the later stages in which degenerative and catabolic processes play an important rôle.

Congenital Obstruction of the Posterior Urethra

DRS. J. H. MASON KNOX, JR. and THOMAS J. SPRUNT, Baltimore: The patient, a boy who had had difficulty in controlling micturition from infancy, died aged 5. At autopsy there was found an obstruction in the prostatic portion of the urethra, which was converted into a blind pouch by the fusion of its anterior and posterior walls, apparently because of an overdevelopment of folds normally present immediately distal to the veru montanum. A small triangular opening, whose sides measured 3 mm., situated in the floor of this pouch, was the only communication with the anterior urethra, and through this the urine had to pass. As a result of urinary stasis there had occurred marked dilatation and hypertrophy of the bladder, ureters, and kidney pelves, with typical hydronephrosis terminating in uremia. We have found no other case of this kind reported in this country.

Typhoid in Infancy

DR. J. P. CROZER GRIFFITH, Philadelphia: I have analyzed seventy-three cases of typhoid in children under 2½, more than one-half of which have come under my own personal observation. This is the largest individual series yet published. The onset of typhoid in infancy is of decidedly shorter duration than later, the length averaging three to four days before evidence of a fully developed attack is present; only about one-third of the cases show a slower appearance of the symptoms. The temperature rises rapidly, diarrhea is more common than in childhood, vomiting decidedly more frequent than in older children. Prostration is seldom marked. Cough and pain are infrequent, and epistaxis is rare. The fully developed attack of typhoid in infancy shows many digestive symptoms. Abdominal distention is frequent, probably more so than at later periods, but is seldom distressing. Bronchitis is common. The heart and pulse are seldom much involved. The nervous symptoms, on the whole, are not marked. The course of the temperature is uncharacteristic. The complications most common are diphtheria, pneumonia, otitis, furunculosis and measles. A decided tendency to suppurative processes was seen in eighteen cases. There were three relapses and possibly four.

DISCUSSION

DR. ALFRED HAND, JR., Philadelphia: The conclusions reached by Dr. Griffith bear out my own experience. The cases of longer duration are those with a lower temperature, from 101 to 102.5 F. The diagnosis of typhoid by the Widal test is as easy in infants as in adults. The test is more valuable in infants than in adults as there is less likelihood of their having had a previous attack of the disease. The test should be made more frequently, as typhoid in infants is not recognized as frequently as it should be.

DR. JOHN L. MORSE, Boston: I agree regarding the sudden onset of the disease. It seems to me that it does not require the Widal test in order to make a diagnosis. The existence of leukopenia is a diagnostic help in these cases.

DR. FRANK S. CHURCHILL, Chicago: I cannot agree that the diagnosis of typhoid in infants is easy; it is extremely difficult. An examination of a blood-culture is the only way to make sure that one is dealing with a case of typhoid. Dr. Griffith said that bronchitis occurred in 47 per cent. of his cases; I have found that it occurs in from 90 to 95 per cent. of the cases.

DR. CHARLES G. KERLEY, New York: In what way were these infants fed?

DR. J. CROZER GRIFFITH, Philadelphia: Mostly on a milk diet with sometimes broths added.

DR. KERLEY: That is the best way to run up a high mortality rate. In twenty-four years of active practice among children I have learned that milk is absolutely contra-indicated in typhoid.

DR. EDWIN E. GRAHAM, Philadelphia: My experience with typhoid has been largely as stated by Dr. Griffith, but I have always thought the mortality in early childhood was comparatively low, something below 16 per cent. I have recently seen three cases of typhoid in children due to a house infection and believe children should be more carefully guarded against infection from this source.

DR. FRITZ B. TALBOT, Boston: In a case in which the child was infected by breast-milk from a mother having typhoid, the milk showed the presence of living typhoid bacilli.

DR. HENRY HEIMAN, New York: I have found it rather difficult to make a diagnosis of typhoid in infants unless in the midst of an epidemic. It is my practice to have a Widal test made in suspicious cases. The blood-culture is extremely difficult to get in young children.

DR. SAMUEL S. ADAMS, Washington, D. C.: I have previously called attention to the fact that typhoid occurs among children more frequently than is supposed. I am glad to hear what Dr. Heiman says about the blood-cultures, as I tried to have them taken by the best assistants that I could procure and they would not take the chance in children under 7 months of age. It is not always difficult to make a diagnosis of typhoid during an epidemic or when it is due to a house infection. I have made diagnoses from very meager symptoms, from general appearance and from the histories furnished by the parents.

DR. HENRY C. COIT, Newark: Has it been Dr. Griffith's experience to receive positive Widal reports in cases presenting no acute symptoms? This has occurred in my experience, and it raises the question of the possibility of infants being typhoid carriers.

DR. J. P. CROZER GRIFFITH, Philadelphia: Of our babies, 60 per cent. were 2 years of age or less. The fever is long-continued much less frequently in infants than in older children. I said that bronchitis occurred at least in 47 per cent. of the cases; it occurs so commonly that it should be regarded as a symptom and not a complication. I do not think it necessary to take a blood-culture. The leukocyte count in children is higher than in adults. None of the children were breast-fed. I cannot agree with Dr. Kerley that milk is the cause of high mortality; it is more often due to complications. The disease could be traced to house infection in only sixteen of the seventy-five cases.

(To be continued)

FLORIDA MEDICAL ASSOCIATION

Thirty-Ninth Annual Session, held at Tampa, May 8-10, 1912

The President, DR. A. H. FREEMAN, in the Chair

Officers Elected

The officers elected for the new year are: President, Dr. John S. Helms, Tampa; vice-presidents, Drs. Graham E. Henson, Crescent City; J. G. DuPuis, Lemon City; M. L. Crum, Bowling Green; librarian, Dr. William S. Manning, Jacksonville.

Place and time of meeting, 1913, Miami, second Wednesday in May.

ADVANCES IN SURGERY

DR. RAYMOND C. TURCK, Jacksonville: In general there is a growing tendency to educate the public to the necessity of surgical intervention in the early stages of many diseases, not to consider surgery a last and often hopeless resort, but to have recourse to surgery at a time when it offers the greatest hope for the saving of life or the restoration of health. Greater stress should be laid on diagnosis, especially early diagnosis, and above all early diagnosis in malignant conditions. The physician should cast out of his mind the older text-book pictures of disease in its advanced, so-called typical stage, and should get the early picture. With a choice of a wealth of modern text-books, with a selection of good medical journals, with opportunities for postgraduate study and attendance on medical and surgical clinics, and above all, the opportunity to utilize the excellent laboratory and diagnostic facilities afforded by our efficient State Board of Health, any man may know the early picture of disease and may make an early and correct diagnosis in a great majority of cases. The profession and the laity should be made to realize that the medical man who studies his case, who makes a cleancut diagnosis, who determines the necessity for an operation and assumes the responsibility of advising operative measures is deserving of and should be given adequate compensation. Conservatism in its truest sense means the restoration or preservation of health and function, or the saving of life. It does not mean the refusal to operate when an operation is indicated, nor does it mean work but partly done, nor the leaving in place of non-functionating or slightly diseased organs or parts of organs solely for the sake of leaving them. The surgeon's knife in its most radical work is often the greatest of conservative agents.

Clinical History

DR. U. S. BIRD, Tampa: Temperature, pulse, respiration and other facts promptly recorded are important to the point of necessity; the records are easily preserved, can be made available, and are absolutely reliable. But most important is the history of the patient as told on the first visit to the physician. It is well to let them tell their stories in their own way. In many cases such a plan will afflict us with much useless gossip. On the other hand, abrupt interruptions and an unsympathetic manner may deprive us of many facts vitally important to a proper diagnosis and treatment. Clinical histories are simply a detail, albeit an important one, in the practice of medicine, and no part of the practice of medicine is limited by any hard-and-fast rule. A knowledge of the previous course of a disease, is an important, almost necessary, aid in the diagnosis, treatment and prognosis.

DISCUSSION

DR. A. H. FREEMAN, Starke: We are often in too big a hurry to get the work on the case done, and in this way we fail to find out a great many features that afterward develop. We should make a greater effort than we usually do to get a history of the case.

DR. L. A. BIZE, Tampa: As a rule, I have a line of definite questions which I ask each patient in trying to get over such ground. In chronic conditions it has been my experience that patients often hesitate to tell their physician all necessary history.

Dysmenorrhea

DR. GERRY R. HOLDEN, Jacksonville: Dysmenorrhea may be divided into two great classes: (1) dysmenorrhea associated with and apparently directly caused by some pathologic condition of the pelvic organs; (2) dysmenorrhea apparently independent of local pelvic conditions and caused entirely or in great part by general extragenital conditions. Pelvic inflammatory disease, backward displacements of the uterus, and myomas are responsible for 90 per cent. of dysmenorrheas caused directly by pathologic pelvic conditions. Dysmenorrhea of the second class is of many types. Some general symptoms are more or less common to all cases. Anemia, malnutrition, general poor development, and instability of the nervous system are frequent. Many deformities or so-called displacements are local expressions of general maldevelopment, e. g., anteflexions and some retroflexions. Treatment of Class 1 is treatment of the lesion at fault. It is not necessarily operative and varies according to the degree of the lesion and severity of the symptoms. Double ovariotomy is never justifiable on account of dysmenorrhea alone. Treatment of Class 2 is in great part general and hygienic. Absolute rest at time of the periods is preferable to drugs and the results are frequently as good. Treatment by corpus luteum extract is of advantage in selected cases. Dilatation and curettage offers good results in selected cases.

DISCUSSION

DR. A. R. BOND, Tampa: The profession in general has been too free in prescribing operations in these cases. We can make no greater mistake than to inflict on a young girl or woman this operation, to unsex her for merely a local trouble that can be otherwise handled. I have treated some of these cases with ovarian extract. The results have been remarkable.

DR. J. G. DUPUIS, Lemon City: Another point of vital importance is the relation of the family physician to the developing girl when menstruation begins, especially as to proper instruction to the patient and the mother. Usually when a girl first menstruates, if there is some difficulty, when a physician is called on he will write a prescription of some sort and that is the end of it. The second time it is painful. A great percentage of our women seem to be growing up in the habit of dysmenorrhea.

DR. G. E. HENSON, Crescent City: No class of cases requires such careful handling as those of dysmenorrhea. In all warm countries we especially have dysmenorrhea from anemia, due to hookworm and malarial infections, and in these anemic girls, growing into womanhood, I would especially urge an examination of the stool for the ova of the hookworm and an examination of the blood for the malarial parasite. I have found very often if these infections are present, if they are put on proper treatment, the dysmenorrhea in many of these cases will disappear.

Pain in the Abdomen and Its Significance

DR. P. C. PERRY, Jacksonville: There are many failures associated with the treatment of pain in the abdomen and the pathologic conditions that are found there. Medical treatment, in but a limited number of cases, yields nothing and has for value only two points; making the patent-medicine vender independently rich off the poor suffering individual, and bringing the family doctor into disrepute within individual families for such failures, when finally the case is referred to the surgeon, after the gross diagnostic points are so apparent that it is impossible for any one to fail to make the diagnosis. After failure to make proper and early diagnosis, the surgeon is confronted by Jackson's veil; Lane's kink; adhesions in and about the gall-bladder; old or latent adhesions, the result of perforative duodenal ulcers, and carcinomatous conditions. But that is a mechanical condition and has to be met by the average surgeon, and he takes all the blame for failure in making permanent cures, sharing more of the responsibility with the public, and taking more of the blame for the failure in these cases than the man who is primarily responsible for it, viz., the family practitioner. Therefore, I urge early diagnosis.

Not every case of pain in the abdomen calls for operative procedure, but cases that require operation should be diagnosed early, and not be allowed to continue for years.

Amebic Dysentery

DR. J. B. WALLACE, Tampa: For several years we have had occasional cases of liver abscess in this section, undoubtedly of amebic origin. These have been found largely among the foreign population, and of comparatively infrequent occurence. Beginning about six months ago there has been a very marked increase in the prevalence of amebic infection; the diagnosis of amebic dysentery having been confirmed by the laooratory in about thirty-five cases. But more significant is the fact that during this period, in addition to the cases reported above, about forty cases of hepatic abscess have been found. The frequency of liver abscess, as a complication of amebic infection, is variously estimated as occuring in from 5 to 25 per cent. of the cases. It is apparent, therefore, that the larger part of our cases of amebic infection are not being recognized. Of the cases noted by far the most frequent complication has been abscess of the liver. This complication, so far as I know, has occurred only in cases in which no diagnosis of amebic infection had been made prior to the development of abscess, and were, consequently, untreated cases. Perforation with fatal peritonitis was a complication in four cases; in two cases death was apparently due to exhaustion consequent to repeated hemorrhages. The diagnosis depends on the discovery of the ameba. The sources of infection are contaminated water and food, most often uncooked vegetables. While definite proof is lacking, the consensus of opinion is that most of our cases have originated from contaminated lettuce or similar uncooked vegetables.

In the treatment of amebic dysentery here at the present time ipecac has practically supplanted all other measures. The method employed is that suggested by Dudley of Manila about two years ago. The patient is put on a milk diet and confined to bed; after 4 p. m. takes neither food nor water for four hours when he is given 30 grains of ipecac, in six salol-coated pills, swallowing these with as little water as possible. The patient takes no food or water during the night; the next day he takes water and milk liberally until 4 o'clock and after a four hours fast is given 25 grains of ipecac. The dose is reduced 5 grains daily, until the 5-grain dose is reached. Patient is then put on a light diet, and daily dose of 5 grains continued for a week or ten days. If the pills are properly prepared there is little or no nausea. This treatment has given excellent clinical results; as to whether they are permanently sufficient time must determine. The local treatment by irrigations with the various amebacidal solutions has failed.

DISCUSSION

DR. THOMAS TRUELSON, Tampa: We have an unenviable number of cases of amebic dysentery, and from all prospects we will have still more. The diagnosis is sometimes very easy. Many cases develop very mild dysentery, very small discharge, very little diarrhea, and some patients have evidently recovered within a week or ten days without any special treatment directed against the amebiasis. If they later develop abscesses, and if we suspect and bear in mind the possibility of amebic dysentery, we can make the necessary tests and make our diagnosis earlier and afford a better prognosis. There are a good many cases of chronic dysentery and repeated outbreaks which are hard to control. I think, as a general rule, the ipecac treatment is the most favorable. It must be borne in mind that some of the ipecac on the market is quite inactive. This may account for some of our failures. Then the method of coating it with salol may have something to do with failure in treatment. If the coating is not thick enough we will get irritation and subsequent vomiting. If the pills get to be too hard so they will not dissolve, we get no action from the ipecac. I think probably a systematic course of ipecac treatment is worth more to the patient than a systematic flushing of the bowels. There is no objection to the flushing of the bowels, and it should probably be recommended as a routine procedure.

DR. W. P. ADAMSON, Tampa: In one of my cases I gave salol-coated ipecac pills; the pills were all recovered from the bowel movements and this kept on happening until the coating had to be made so thin or so fragile that at times the ipecac produced vomiting. In one or two cases, when I have used ready-made pills they would pass through undissolved; and I have observed that during eight to ten hours following the use of ipecac, some dysentery patients would have a number of liquid, yellowish stools. These cases, I think, give the best results.

A Vegetable-Borne Epidemic of Typhoid

DRS. HIRAM BYRD and CHAS. WM. BARTLETT, Jacksonville: The source of the typhoid infection in Tampa was likely polluted lettuce, the evidence of which is as follows: 1. Most of the lettuce consumed in Tampa is grown in Garytown valley. 2. Lettuce gradually found its way into the market from the latter days of September, the market being well opened by the middle of December. 3. On December 16-17 a rainfall of 1.95 inches occurred in twenty-four hours. 4. At this time 75 per cent. of the vegetable gardens in the Garytown valley were flooded. 5. Living on the watershed of this Garytown valley are approximately 1,500 people using surface closets. 6. Among these were sixteen cases of typhoid and three cases of amebic dysentery during 1911. 7. The flooding of the gardens from a polluted watershed would inevitably pollute the vegetables. 8. This is further substantiated by the fact that a sample of water taken from the creek even in a dry season (March 10) was sewage polluted. 9. Lettuce was the chief vegetable concerned because it was the only one to reach the market in any considerable quantity until several weeks had elapsed after the flood; and after the typhoid had been well established. 10. The people of Hyde Park (seat of epidemic) consume proportionately more lettuce than those of the rest of the city; and here both typhoid and amebic dysentery were chiefly established. 11. The people of East Tampa consume lettuce to some extent, but not to the extent that Hyde Park people do, and that here typhoid and amebic dysentery prevailed to some extent but not so much as in Hyde Park. 12. The people of West Tampa consume very little lettuce and here the typhoid and amebic prevalences showed no disturbance.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May, III, No. 5, pp. 477-608

1 *Pharmacologic Action of Vanadium. D. E. Jackson, St. Louis.
2 Convulsive Reflex Produced by Strychnin: I. Habit. H. T. Mostrom and H. McGuigan, Chicago.
3 *Idem. II. As Modified by Epinephrin. H. T. Mostrom and H. McGuigan, Chicago.
4 Convulsant Action of Some Sulphonated Dyes. D. I. Mache, Baltimore.
5 *Seat of Emetic Action of Apomorphin. C. Eggleston and R. A. Hatcher, New York.
6 Action of Drugs and Function of Anterior Lymph Hearts in Cardiectomized Frogs. J. J. Abel, Baltimore.

1. **Pharmacologic Action of Vanadium.**—In the long list of diseases in which vanadium has been reported to do good, Jackson says one might search a long time before he could find any common factor, the correction of which might be expected to cure or greatly alleviate the malady. Among this list perhaps ought to be mentioned tuberculosis, anemia, chlorosis, lues, rheumatism, diabetes, arthritis deformans, "heart disease," cachexia, autointoxication, sciatica, dropsy, neurasthenia, myelitis, chorea, "dyspepsia," anorexia, bronchitis, skin affections, etc. In addition may be mentioned its use as a local antiseptic in skin and venereal diseases. So far as Jackson can deduce from the literature and from his own experiments, he says that probably the only actions of the metal which may be at all utilized in the treatment of pathologic conditions are those which are exerted on the abdominal organs. These consist of a marked localized peripheral constriction and perhaps toning up of the vessels of the splanchnic area; an increase in the peristaltic movements and apparently an increase in the urine flow. This latter is probably due mainly to the vascular action.

When administered intravenously the chief action of vanadium is expended on the vascular system. The central

nervous system has but little influence on this action, for the rise in blood-pressure produced by injection of vanadium into an animal whose head has been removed from the body is almost identical, both in character and extent, with the rise produced by injection of the metal into a normal (etherized) animal. With ordinary doses the mammalian heart is but little affected. The vagus endings in the heart remain active throughout the whole course of the intoxication in the intact animal. An intense peripheral vasoconstriction is produced by the metal in the spleen, kidneys and intestines. Jackson claims that the view held previously that the rise in general blood-pressure was due to a strong stimulation of the medullary vasoconstrictor center is wholly wrong. The peripheral constriction is due to a localized action within the organs themselves.

With repeated intravenous injections of the same sized doses into an intact animal the rise in blood-pressure following each injection regularly decreases until at length a fall will be produced by each injection. This is due first, to weakening and paralysis of the vasoconstrictor center, and second, to a direct depression of the heart. With a moderate dose the maximum rise in blood-pressure will be produced and a further increase in the size of the dose will not give any greater rise in the pressure. This seems due to the fact that a moderate dose gives the maximum contraction of the visceral vessels and a larger dose does not produce any corresponding constriction of the remaining vessels of the body. The peripheral action of vanadium on the visceral vessels is very much greater than that of barium. With doses of epinephrin and of vanadium so adjusted that each will give the same rise in general blood-pressure, the vasoconstriction in the kidney, spleen and intestine produced by vanadium will be very much greater in extent and duration than that produced by the epinephrin. On this basis, Jackson believes that vanadium may possibly prove of use in internal hemorrhages occurring in these organs.

With moderate (intravenous) injections the general blood-pressure usually returns approximately to its normal level (or even below) several minutes before the constriction in the abdominal organs disappears. There is an increase in the peristaltic movements of the intestines. But the local application of vanadium to a loop of intestine does not cause a local anemia or a contraction of the bowel wall as occurs with barium. These two elements also differ widely in their actions on the heart. Smooth muscle, except the vessels and alimentary canal (and perhaps certain nonstriped muscular elements in the spleen and kidney), does not seem to be affected by the metal. In toxic doses the substance acts on the kidneys and gastro-intestinal canal in a manner similar to that of other irritating metallic bodies.

3. **Strychnin Reflex and Epinephrin.**—The authors claim that epinephrin is antagonistic to the paralytic action of strong strychnin solutions on the heart. Epinephrin and strychnin have a synergistic action on the cord. Spasms develop more quickly when epinephrin is given with or previous to strychnin. Strychnin is antagonistic to the general depression produced by epinephrin, but this antagonism is not mutual. Epinephrin will not antagonize a strychnin spasm. There is then no indication that epinephrin can be applied with benefit in the treatment of strychnin convulsions.

5. **Seat of Emetic Action of Apomorphin.**—The evidence in favor of the existence of a central controlling mechanism for the act of vomiting, Eggleston and Hatcher say, is overwhelming. All of the evidence favors the view that apomorphin acts directly on such central mechanism; there is no valid evidence in favor of the local reflex action of apomorphin. Apomorphin acts solely by direct stimulation of the central vomiting mechanism in the dog and probably also in man.

Journal of Arkansas Medical Society, Little Rock

May, VIII, No. 12, pp. 317-342

7 Ectopic Pregnancy, with Clinical Report of Four Recent Cases. W. A. Snodgrass, Little Rock.
8 *Obstetrics and Gynecology in Country Practice. F. B. Young, Springdale.
9 Urinary Calculi. L. E. Willis, Newport.
10 Conjunctival Flap. R. H. T. Mann, Texarkana, Texas.

8. Abstracted in THE JOURNAL, July 8, 1911, p. 157.

Surgery, Gynecology and Obstetrics, Chicago

June, XIV, No. 6, pp. 537-670

11 Pyloroplasty. G. G. Turner, Newcastle-Upon-Tyne, England.
12 *Late Results of Operations for Perforation of Gastric or Duodenal Ulcer. G. Petren, Lund, Sweden.
13 *Histology and Nature of So-Called Foam-Cell Tumors. C. Smith, St. Louis.
14 *Autolytic Excision by Pentagonal Compression Suture. J. W. Draper and W. C. MacCarty, Rochester, Minn.
15 Study of Diseases of Accessory Sinuses in Relation to Diseases of Eye and Surgical Methods to be Adopted for Their Relief. J. H. Bryan, Washington, D. C.
16 Relation Between Otitic and Intracranial Diseases. G. Bacon, New York.
17 Origin of Epithelial New Growths of Ovary. J. R. Goodall, Montreal.
18 Chronic Visceral Pain in Relation to Surgery and Psychotherapy. T. A. Williams, Washington, D. C.
19 Newer Operations in Glaucoma. J. E. Weeks, New York.
20 Codivilla's Method of Lengthening Lower Extremity. A. H. Freiberg, Cincinnati.
21 Operation for Retrodisplacement of Uterus. A. M. Willis, Richmond, Va.
22 Removal of Sternum for Cancer with Suturing of Innominate Vein. E. Lanphear, St. Louis.
23 Prostatectomy To-Day. W. Van Hook, Chicago.
24 Cystoscope in Gynecology and Obstetrics. G. B. Miller, Washington, D. C.
25 Vanadium Steel Bone Plates and Screws. W. O. Sherman, Pittsburgh.
26 Device in Suprapubic Openings. C. M. McKenna, Chicago.
27 Large Cysts of Urachus. J. F. Baldwin, Columbus, Ohio.

12. **Perforation of Gastric or Duodenal Ulcer.**—The investigations made by Petren of the after-histories of those who have survived operations for perforation show somewhat varied results; but they all indicate that the majority of ulcer cases have a favorable after-history, when operation for perforation has been performed successfully. The reports embrace 135 cases of perforated gastric or duodenal ulcer with acute peritonitis, which have all been operatively treated. Of the 135 cases of perforation, twenty-three were cases of perforated duodenal ulcer. Fifty-four patients, that is, 40 per cent., survived. Of the ninety-two cases in which the laparatomy resulted in effecting suture, fifty patients, that is 54 per cent., were saved, while only four patients, making 9 per cent., survived out of the forty-three cases in which suture was not effected at the operation but only the peritoneal cavity drained. During the first twelve hours after perforation fifty-seven patients were operated on, with recovery of thirty-two (56 per cent.); during the second twelve hours after perforation thirty-five patients were operated with recovery of fifteen (43 per cent.); after more than twenty-four hours after perforation forty-three patients were operated with recovery of seven (16 per cent.). Taking into account only the sutured perforations of forty-seven patients operated on during the first twelve hours, thirty-one survived (66 per cent.); of twenty-seven operated during the second twelve hours, fourteen survived (52 per cent.); of eighteen operated on within twenty-four to twenty-seven hours, five survived (28 per cent.). These figures confirm the fact maintained by many earlier writers that operation during the first twelve hours, possibly even during the second twelve hours, and complete suture of the perforation, are the chief conditions for a successful result of operations for perforated ulcer. Of patients thus operated, two-thirds recovered. The after-investigation shows that of the fifty-two patients concerning whose late history information could be obtained, all but two are still alive. One died sixteen months afterward of gangrene in the leg, while in the case of the other it is possible that the cause of death may have been connected with the gastric ulcer. In the fifty-two cases in question, two to nine years have elapsed since the operation in twenty-six cases; one to two years have elapsed since the operation in fifteen cases; and one-half to one year has elapsed since the operation in eleven cases. As regards the ulcer symptoms during the time that elapsed after perforation, it appears from the after-investigations that of fifty-one patients, thirty had very slight or no trouble from the ventricle; fourteen had slight or moderate trouble (in some cases only temporarily); and, finally, seven had considerable or severe ulcer troubles. Taking into account only the twenty-six patients who have had a period of observation since the perforation of at least two years, twelve were free from symptoms, ten had slight and four severe trouble. The results of these after-investigations thus show that about half the ulcer patients who have successfully gone through an operation

for perforation are after years quite well, fully capable of work, and practically free from gastric symptoms, and that only a small proportion of the remaining cases have later been subject to severe ulcer symptoms. An anamnesis without symptoms of ulcer gives a case of perforation a good prognosis for the future, while ulcer troubles of many years' standing in the anamnesis give a dubious prognosis. The after-results of suture of perforations situated in the neighborhood of the pylorus or in the duodenum are relatively favorable without gastro-enterostomy having been performed, save in a few cases.

13. **Histology and Nature of Foam-Cell Tumors.**—Neoplasms, which show cholesterin fat, may contain it under three different conditions. (a) The new growths may arise from organs, the cells of which normally contain cholesterin fat (suprarenal tumors). (b) Cholesterin fat may be set free in tumors by degeneration of the parenchyma cells with secondary local resorption in the stroma (pseudoxanthoma). (c) Tumor cells may contain cholesterin fat due to infiltration as a consequence of a special metabolism of the cell and persist as neoplastic cells. This third type, Smith says, appears under the characteristic form of a foam-cell tumor and may be a total foam-cell tumor or a partial type. All the foam-cell tumors known till now belong to the connective tissue-endothelial group and may appear with different ground characters (fibrosarcoma, lymphangio-endothelioma, etc.). The total or partial foam-cell quality Smith characterizes by the attribute *xanthomatosum*. (Fibrosarcoma, or endothelioma xanthomatosum, etc.). True foam-cell new growths occur in other places besides the skin, i. e., mucous membrane of the tongue, parotid gland, tendons, fascia and periosteal dura. The appearance of tumor cells as typical undegenerated foam-cells allows the conclusion that cholesterin fat was in the cells.

14. **Autolytic Excision.**—The authors emphasize the fact that from a practical standpoint the occasional adopter of autolytic excision must, in the case of ulcers, not be guided wholly by the character of the ulcer base or of the peritoneal involvement, but more particularly by the necessity of destroying a large portion of the mucosa beyond the ulcer border. The successful application of the autolytic method of excision, if employed in the treatment of gastric ulcer, rests, therefore, on the following cardinal principle. Carcinoma begins in the ulcer border and the comprehensive destruction of this must be the final object of operative intervention.

Journal of Medical Association of Georgia, Augusta

June, II, No. 2, pp. 35-64

28 *Medical Society and Its Relation to Public Health. T. J. McArthur, Cordele.
29 *Eugenical Conservation of Man. A. L. R. Avant, Savannah.
30 Cerebrospinal Meningitis. W. D. Travis, Covington.
31 Deaf-Mute Children. R. C. Woodard, Adel.

28 and 29. Abstracted in THE JOURNAL, June 1, p. 1709.

Boston Medical and Surgical Journal

June 13, CLXVI, No. 24, pp. 875-910

32 Peter Bent Brigham Hospital. H. B. Howard, Boston.
33 Carnegie Nutrition Laboratory. F. G. Benedict, Boston.
34 Function of Experimental Method in Course in Pathology. H. T. Karsner, Boston.
35 New Children's Hospital. R. W. Lovett, Boston.
36 New Psychopathic Department of Boston State Hospital. E. E. Southard, Boston.
37 Department of Preventive Medicine and Hygiene and New Degree of Doctor of Public Health. M. J. Rosenau, Boston.
38 Huntington Hospital and Scope of Its Work. E. E. Tyzzer and T. Ordway, Boston.
39 *Anterior Metatarsalgia and Morton's Disease. A. M. Forbes, Montreal.
40 Abduction of Shoulder. Interesting Observation in Connection with Subacromial Bursitis and Rupture of Tendon of Supraspinatus. E. A. Codman, Boston.
41 *Hastening of Wound Healing by Means of Skin Grafting and Use of Certain Organic Coloring Matters. J. S. Davis, Baltimore.

June 20, CLXVI, No. 25, pp. 911-950

42 Annual Discourse: Burden of Feeble-Mindedness. W. E. Fernald, Waltham.
43 *Efficiency Tests of Out-Patient Work. M. M. Davis, Boston.
44 *Is Early Diagnosis of Pulmonary Tuberculosis Being Carried Too Far? J. B. Hawes, Boston.
45 A "Library-Museum" in Medicine. T. Ordway, Boston.
46 Dickens' Doctors. R. M. Green, Boston.
47 Two New Instruments for Nose and Throat. L. M. Freedman, Boston.
48 Two Cases Reinfected with Syphilis Following Treatment by Salvarsan. J. H. Cunningham, Boston.

39. **Anterior Metatarsalgia and Morton's Disease.**—Forbes believes that the term "anterior metatarsalgia" should not be taken to include Morton's disease, but, rather, that there are two distinct affections with probably a common etiological factor in the majority of cases, but with a distinctly different pathology and a more or less distinctive symptomatology. For nearly two years a physician has been under Forbes' observation. His principal complaint was not the dull, aching pain so constantly complained of by those suffering from anterior metatarsalgia, but, rather, the sharp, lancinating and occasional pain described by the earliest writers as characteristic symptoms of Morton's disease. The patient had been treated for more than one year with the ordinary methods applicable to anterior metatarsalgia, when he became the subject of special study because his symptoms were unrelieved and because he still complained of sharp, lancinating pains, pains which were described as peculiar to the member and part complained of.

An examination was made and it was found to be an easy matter to produce by lateral pressure, in the region of the heads of the metatarsals, not that characteristic pain of anterior metatarsalgia, but the sharp, lancinating pain which he had originally complained of, and, further, by such pressure coincidentally with the advent of the pain a distinct clicking noise was heard and a displacement of the fifth metatarsal was suggested. A skiagram of the foot while subject to this pressure demonstrated a very definite displacement. When the foot was released from pressure the pain ceased and the displaced fifth metatarsal seemed to slip back into place.

41. **Wound Healing.**—Scarlet red and amido-azotoluol Davis found will not heal every granulating wound, but in the majority of cases, when applied with the proper technic, they will cause epithelial stimulation in the edges of the most sluggish wounds and give a rapid healing which is stable and resistent, and which has the macroscopic and microscopic appearance of the normal skin. There is no tendency to subsequent contraction, and the skin becomes movable on the underlying tissues in a reasonable time. Any one of these characteristics would make the use of these substances well worth trying.

43. **Efficiency Tests of Out-Patient Work.**—The following summary is presented by Davis of the points made in his article:

1. The work of out-patient departments is of great public importance, but despite the large sums devoted to it annually, no systematic tests of its efficiency have been devised.
2. The ordinary method of judging out-patient and similar medical work is by the "method of adventitious memory;" e. g., telling about cases the results of which happen to be known.
3. The proper method of applying an efficiency test is the statistical method, by which a number of cases selected at random are studied as a whole in order to ascertain the different results achieved and the relative proportion of each type.
4. Out-patient departments must ask themselves two questions: first, results attained with relation to disease; second, those secured in improving the human beings who come for care.
5. An efficiency test based on these principles leads to the study of a group of patients selected at random, conducted partly by persons trained in social investigation and partly by examination of the medical data secured during visits to the clinic.
6. A study of this type conducted at the Boston Dispensary, on a group of 116 patients, reveals the social and economic classes to which they belong, their previous medical resources, their present medical and social problems and the medical results achieved.
7. The discussion of so-called dispensary "abuse" has suffered because of lack of social facts secured in this way; and because of consequent absence of recognized standards.
8. In determining the eligibility of patients for treatment, the character of the disease from which the patient is suffering and the provision of medical service in the community for that particular disorder must be considered as well as financial condition.
9. The study of the 116 patients of the Boston Dispensary indicates that in one-third of the cases no result was reached because of the failure of the patients to return for the treatment which the first visit had shown to be required. This is a minimum figure for the medical waste in this group.
10. An increase of efficiency (including the reduction of the percentage of medical waste) depends on various factors, particularly on clinical organization and on an organized follow-up system.
11. Follow-up work, to be most efficient and economical, must be based on social diagnosis and classification of the patients, and this must be done chiefly by specially trained social workers assigned to service in the clinics under the direction of the physicians.
12. Only by systematic efficiency tests, based on medical and social studies of groups of patients selected at random, is it possible for an out-patient department to organize its work on a basis of maximum efficiency and economy.

44. **Early Diagnosis of Pulmonary Tuberculosis.**—In summing up this subject it seems to Hawes that the evidence as he has been able to gather it from the best sources available

is strongly against any proposition that the early diagnosis of tuberculosis is being carried too far. Very few non-tuberculous patients are admitted to sanatoria; there is no evidence that any harm is done, or anything but good accomplished by admitting such patients; the "stigma of tuberculosis" is more a fiction than a fact; homes are not wrecked by sending away the breadwinner who has suspicious symptoms, but, on the other hand, tragedies of the most pathetic nature are daily being enacted on account of hyperconservatism and unwillingness on the part of the physician to make a definite diagnosis and to institute efficient treatment. Finally, he believes that while the diagnosis of "tuberculosis suspected" or "Ph?" is a perfectly proper and right one to make in many instances, it should be regarded as only a temporary or provisional one, and that the patient should be followed up until the diagnosis of his condition can be made definite one way or the other, while in the meantime he is given proper treatment and has the exact situation clearly explained to him.

New York Medical Journal

June 15, XCV, No. 24, pp. 1249-1300

49 Comments on Sex Issues from Freudian Standpoint. J. J. Putnam, Boston.
50 Some Phases of Prostatic Disease. L. B. Bangs, New York.
51 *Combined Use of Thyroparathyroid, Pituitary, Ovarian and Testicular Extracts. F. R. Starkey, Philadelphia.
52 Two Cases of Large Ovarian Cystoma. J. A. McGlinn, Philadelphia.
53 Some of Newer Uses of Calcium. T. Howard, Brooklyn.
54 Conservation of Vision. A. Brav, Philadelphia.
55 Effect of Infundibulin on Mammary Secretion. J. C. Scott, Philadelphia.
56 Instruction of College Students in Regard to Reproduction and Maternity. E. B. Thelberg, Poughkeepsie, N. Y.

June 22, XCV, No. 25, pp. 1301-1348

57 *Indications for Arthrodesis and Arthrolysis. A. Lorenz, Vienna, Austria.
58 Sex Issues from Freudian Standpoint. J. J. Putnam, Boston.
59 Causes and Results of Constipation in Relation to Pelvic Disorders of Women. G. G. Ward, New York.
60 Dementia Paralytica. W. W. Richardson, Norristown, Pa.
61 Dietetic Treatment of Cardiovascular Disease. E. E. Cornwall, New York.
62 Pneumonia as a Complication. M. Girsdansky, New York.
63 Rapidly Fatal Institutional Form of Acute Poliomyelitis. J. Van V. Manning, New York.
64 Some Facts Suggested by Examination of Children of Tuberculous Patients. C. Blum, New York.

51. **Combined Opotherapy.**—It is claimed by Starkey that the polyglandular substance described by him has a marked stimulating effect, and that in acute asthenic conditions with low blood-pressure and suboxidation it activates the vital process and thus tides the patient over the most critical stages of the disease, while increasing the efficiency of his autoprotective resources. The same polyglandular solution he claims seems also to be almost a specific for neurasthenia. It has a marked stimulating effect on mental, nervous and muscular activity as well as general metabolism and oxidation in general. It augments powerfully the contractile power of the cardiovascular system, and is, therefore, contraindicated in cases of high blood-pressure. Finally, it increases the action of other drugs, arsenic, mercury, iodids and salicylates in particular, and their curative efficiency.

57. **Arthrodesis and Arthrolysis.**—If a healthy and painless, though paralytic joint, outvalues a stiff joint (especially in patients condemned to a sitting life), then Lorenz believes that arthrodesis is justified only at the paralytic shoulder and eventually at the contracted paralytic wrist; the static joints had better be left to mechanical fixation. If an ankylosed joint in favorable position is preferable to a mobile but sensitive and even painful joint without sufficient stability, then arthrolysis is justified only in the elbow joint and in the jaw. As to ankylosed joints, Lorenz clings to the standpoint of the late Hoffa: "Hands off an ankylosed knee-joint in good position." As to partially ankylosed knee-joints, especially ankylosis of the patella, he says there can be no question that a mobilizing operation is fully justified. In a word, there are in general no indications for operative mobilization of the joints of the lower extremity. At the upper extremity matters are somewhat different, though no operator can earnestly recommend to his patient mobilization of his stiff wrist joint, the final result being more than questionable, though nearly the same must be said should the shoulder joint come in question (the inconvenience of shoulder ankylosis to the patient being too insignificant to justify a rather severe operation). Only one joint as far as orthopedic surgery commands the field, should be mobile, i. e., the elbow joint. There is still another joint whose disabilities are claimed by general surgery, which must be mobile under all conditions, i. e., the jaw.

Medical Record, New York

June 15, LXXXI, No. 24, pp. 1125-1170

65 *Management of Gonorrheal Rheumatism. E. Fuller, New York.
66 Facts of Modern Science and Their Value in Prevention and Cure of Disease. H. Hille, Chicago.
67 Practical Value of Wassermann Reaction. D. M. Kaplan, New York.
68 Mercury in Syphilis. W. S. Reynolds, New York.
69 Myositis Traumatica. M. I. Knapp, New York.
70 What Should General Practitioner Know About Disturbances of Motility of Eye? J. R. Hicks, New Brighton, Staten Island, N. Y.
71 Exophthalmic Goiter; Report of Case. M. B. Gordon, Brooklyn.

June 22, LXXXI, No. 25, pp. 1171-1216

72 Epidemic of Epithelioma (Molluscum) Contagiosum, with Some New Observations Concerning "Molluscum Bodies." M. B. Hartzell, Philadelphia.
73 Surgical Treatment of Oblique Inguinal Hernia. F. Torek, New York.
74 Transplantation of Rib for Depressed Deformity of Nose. H. Hays, New York.
75 Bone Syphilis Masquerading as Tuberculosis. L. W. Ely, Denver.
76 Non-Operative Treatment of Sterility. S. J. McNutt, New York.
77 Chest Index in Pulmonary Tuberculosis. W. Narins, New York.
78 Surgery from Pediatric Standpoint. L. Kerr, Brooklyn.
79 Dry Necrosis of Mastoid Cells. O. Wilkinson, Washington, D. C.

65. **Gonorrheal Rheumatism.**—In 1909 Fuller reported his first 126 cases of seminal vesiculotomy. Of these, thirty-five represented cases of rheumatism. Since then he has performed seminal vesiculotomy 125 more times, so that at present his total operative cases number 251. Of these last 125 cases eighty-seven represented rheumatism. With most of these the rheumatism, acute or chronic, was of a very severe grade, and it was for the relief of the rheumatism only that seminal vesiculotomy was performed. A minority of the patients had other clinical symptoms due to seminal vesiculitis coexisting with rheumatism as a reason for operation. In this last series a much larger proportion represented rheumatic conditions than pertained to the first series. This, Fuller says, is largely because rheumatism is the clinical symptom of seminal vesiculitis which usually, by incapacitating an individual, brings him to hospital, and in his experience at the City Hospital, when those suffering from rheumatism see the rapid cures resulting with little postoperative discomfort in those who have been subjected to seminal vesiculotomy, there is such a scramble for operation that no time has to be wasted in persuasion. Out of 251 cases there has been no mortality, so argument against the operation on that score cannot be very impressive. In his last series the results with rheumatic cases have been uniformly good. He attributes the better results in the second series to a more thorough performance of the operation and to improved postoperative details.

Texas Journal of Medicine, Fort Worth

June, VIII, No. 2, pp. 31-76

80 *Some Causes of Adulterated Food. J. S. Abbott, Austin.

80. **Adulterated Food.**—Do the consumers themselves take any interest in the pure-food movement? asks Abbott. Do we care whether a baker brings our bread to us in dust-proof paper, or whether he brings it unwrapped in the dirty hands which handle his dirty horses? Does the conscientious manufacturer receive the support of consumers in a way that makes him glad he is living? Does the consumer know, or does he care, whether his favorite soft drink is medicated or not with caffein, cocain, formic acid and the like? Does the housewife care whether or not her grocery man keeps her berries, grapes and the like out on the sidewalk, exposed, unprotected from flies, dogs and the manure dust of the

street? The religious press of our country, he continues, has been carrying rotten advertising matter of every kind, almost. It will not advertise alcoholic beverages, and very properly. But it has advertised quack doctors and quack cure-alls and quack cosmetics, and encouraged the public to diagnose its own ills, and on that diagnosis take the secret remedies of some self-designated master-specialist.

Lancet-Clinic, Cincinnati

June 8, CVII, No. 23, pp. 613-638

81 Etherization by Drop Method, with Rebreathing and Concomitant Oxygenation. F. H. M'Mechan, Cincinnati.
82 Nitrous-Oxid-Oxygen as Routine Anesthetic. M. Salzer, Cincinnati.
83 Syphilis of Aorta. A. D. Dunn, Omaha, Neb.
84 Oral Hygiene Movement. S. Iglauer and Others, Cincinnati.

June 15, CVII, No. 24, pp. 639-666

85 Grocco's Sign in Pleuritic Effusion. M. A. Brown, Cincinnati.
86 Principles Involved in Treatment of Superficial Surgical Lesions. J. L. Lohse, Oakland, Cal.
87 Complete Operation for Suppurative Appendicitis. G. A. Hendon, Louisville, Ky.
88 Some Inherited Eye Affections. F. Dowling, Cincinnati.

Annals of Surgery, Philadelphia

June, LV, No. 6, pp. 785-941

89 General Infection Following Acute Tonsillitis. W. J. Taylor, Philadelphia.
90 *Thoracic Aneurysm Treated with Gold Wire and Galvanism. W. C. Lusk, New York.
91 Adhesions of Upper Abdomen. R. T. Morris, New York.
92 *Involvement of Regional Lymph-Nodes in Carcinoma of Stomach. W. C. MacCarty and J. M. Blackford, Rochester, Minn.
93 Congenital Absence of Cecum and Ascending Colon. P. L. Mummery, London.
94 Prevascular Femoral Hernia. A. V. Moschcowitz, New York.
95 Radical Cure of Hernia. C. F. Nassau, Philadelphia.
96 Value of Arteriovenous Anastomosis in Gangrene of Leg. H. M. Davies, London.
97 Fracture of Radius Above Attachment of Pronator Quadratus. E. G. Alexander, Philadelphia.

90. **Thoracic Aneurysm Treated With Wire.**—The following principles are formulated by Lusk as a result of observations on several cases of aneurysm, besides experimental work on 151 dogs. The wire should be one having the properties of the gold platinum "Clasp" alloy, viz., it should be resilient and it should not dissolve under the influence of the electrolysis. The resiliency enables the loops, with proper technic, to reform within the aneurysm, so that the disposition of the wire is more or less under the control of the operator. The wire should be made to come as extensively as possible into contact with the lining of the aneurysm, so that the electric current can injure the same, thereby producing areas for the adhesion and organization of the fibrinous clot deposited by the electrolysis along the contiguous portion of the wire, as well as for the deposit and organization of laminated fibrin.

The introduced extremity of the wire should be spirally shaped. Unless the insulated gold needle be known to be made of an alloy which is not decomposed by electrolysis, it would be as well to test it in a dog before use on a patient. In case the needle is likely to have to make a deep puncture to reach the interior of the aneurysm, it can, before its introduction, be pricked through a little square of rubber dam, which will insulate its outer extremity should the latter come into contact with the superficial wound. The needle and wire should be boiled in distilled water. The negative electrode should be placed against the back directly over the area corresponding to the aneurysm and should more than cover this area. It is as well, says Lusk, that the external portion of the wire during the passage of the current should trail over a piece of rubber dam.

The principle in the use of the current as here set forth is to begin with a high current (100 ma. for fifteen minutes, raised to this point at the start in two minutes' time), which will to a sufficient degree injure the intima at the sites of contact of the wire, and then lower the current to the strengths successively (50 ma., 40 ma., 30 ma. each for fifteen minutes) which were found in the experimental work to be the combination most favorable for the production of a firm fibrin deposit that would become adherent to the sites of trauma during the passage of the current. In the experiments in which the 100 ma. current was used at the start, it was found that the fibrin deposit on the wire at the sites of trauma of the intima would be greater in amount than that in the intervals. The site of puncture should be at a thickened portion of the aneurysmal wall rather than at a thinned portion. The needle should be of a caliber just enough larger than the wire to allow the free passage of the latter without friction, which relation in sizes enables the hemorrhage through the needle on its introduction to be arrested by the passage of the wire.

On the withdrawal of the needle, when the puncture has been made through a thickened portion of the sac wall, the hemorrhage seems to become easily self-arrested, particularly if the wire be pulled gently outward until the fibrin-covered portion within the sac, just beyond that which has been sheathed by the needle, is felt to have been drawn firmly against the interior aspect of the puncture. In case, for any reason, on withdrawal of the needle a free hemorrhage should arise which would seem unlikely to be controlled by ordinary measures, Lusk suggests before cutting the wire off, the starting up of the electrical current again at 50 ma. In most of the animal experiments the needle was withdrawn from the aorta immediately after passing the wire, with resulting free hemorrhage from the puncture, which, temporarily arrested by the gloved finger, could invariably be controlled by a 50 ma. current, usually within three minutes' time and rarely in longer than nine minutes.

In four recovery experiments in which this technic was employed (the puncture being unprotected by any insulation throughout the electrical seance), and the wire was left protruding through the puncture at the end of the operation, the puncture was found at autopsy to be tight. One of these animals (highest strength of current, 50 ma.) was autopsied on the fifth day after operation, another (highest strength of current, 75 ma.) on the fourth day, and two (highest strength of current, 100 ma.) after ten and twelve weeks, respectively. In both of the latter the wires had shifted from their original positions each having worked back through the puncture for about 2 inches into the subperitoneal tissues, where the extruded portion was found encased in scar tissue. It is a well-established principle that the positive pole should be attached to the gold wire and the negative pole to the electrode against the back. In a dog with the current reversed, the negative pole being attached to the wire in the aorta and the positive pole to the electrode against the back, neither trauma of the intima nor the deposit of any fibrin along the wire took place.

92. **Lymph-Nodes in Stomach Cancer.**—The negative conclusions are summarized by MacCarty and Blackford as follows: The size of regional lymph-nodes bears no apparent relation to the size of the primary lesion in the stomach. The size of a lymph-node is no criterion of the presence or absence of carcinoma. Gross diagnoses of lymph-nodes are of no value except in advanced carcinoma. The duration of symptoms bears no apparent relation to the size and extent of involvement in the lymph-nodes. The average age at operation and sex bear no direct relation to the glandular involvement. The positive conclusions are summarized as follows: The average loss of weight increases with the increase in extent of glandular involvement. The immediate hospital postoperative mortality is in direct proportion to the amount of glandular involvement. The subsequent mortality is in direct proportion to the amount of glandular involvement. Carcinomatous glandular involvement is very often microscopic. The surgeon who desires to treat early carcinoma must depend on the microscope in the hands of an experienced pathologist for early carcinomatous lymphatic involvement. The diagnosis of early carcinomatous involvement requires extensive experience in the study of the so-called precarcinomatous reaction of lymph-nodes.

American Medicine, Burlington, Vt.

May, VII, No. 5, pp. 234-292

98 Diphtheria Epidemics and Public School. A. W. Colcord, Clairton, Pa.
99 Inefficient Disinfectants. J. T. A. Walker, New York.
100 Sphygmomanometer: Its Place in Diagnosis; Significance of Blood-Pressure. H. E. Rogers, Brooklyn.
101 Attempt to Cope with Economic Problem Within Practice of Medicine. O. Rotter, New York.

102 Place of Antitoxin and Intubation in Treatment of Diphtheria. E. R. Bedford, Brooklyn.
103 Wreck of the Titanic. H. W. Frauenthal, New York.
104 Case of Achondroplasia. L. C. Ager, Brooklyn.
105 Treatment of Measles and Scarlet Fever. J. L. Marbourg, Seattle, Wash.
106 Permanent Mounts of Microscopic Preparations. G. R. Williams, Paris, Ill.

American Journal of Medical Sciences, Philadelphia

June, CXLIII, No. 583, pp. 781-936

107 *Surgery of Bile Ducts. J. B. Deaver.
108 Critical Study of Oxyuris and Trichocephalus Appendicitis. R. L. Cecil and K. Bulkley, New York.
109 *Treatment of Exophthalmic Goiter. J. H. Musser, Philadelphia.
110 Thyroid Disease Complicating Pregnancy and Parturition. E. P. Davis, Philadelphia.
111 Functional Test for Hepatic Cirrhosis. N. B. Foster, New York.
112 *Management of Asthma in Children. H. M. McClanahan, Omaha, Neb.
113 Treatment of Fractures of Forearm, End Results of Fifty-Two Patients Treated Without Operation. A. P. C. Ashhurst and R. L. John, Philadelphia.
114 Further Evidence in Support of Toxic Pathogenesis of Bronchial Asthma, Based on Experimental Research. A. Eustis, New Orleans.
115 Recurrent Disease of Skin Associated with High Winds and Cold Weather, for Which the Name Dermatitis Hiemalis Has Been Proposed. W. T. Corlett and H. N. Cole, Cleveland.
116 *Experimental Study of Effects of Ureteral Obstruction on Kidney Function and Structure. E. Beer, New York.
117 Use of Crehore Micrograph in Clinical and Experimental Study of Cardiovascular Physiology. J. H. Austin and G. M. Piersol, Philadelphia.

107. Surgery of Bile-Ducts.—Deaver urges the danger of procrastination and too much deliberation. It is well known, he says, that he who deliberates is lost, but under these circumstances it may be the unhappy lot of the patient to be numbered among the lost. It should be mortifying to the physician to see the disastrous results of infection laid bare, to say nothing about the mortification of the patient. The full story of the autopsy *in vivo* has not yet been told. The new pathology is now being written. The dawdling with duodenal buckets, fallacious laboratory methods, etc., he deplores, and could patients be educated to their uselessness, he believes they, too, would despair. The resources of surgery are rarely successful when practiced on the dying, nor are they so uniformly successful when pathology is advanced as when it is in its incipiency. At least nine-tenths of the mortality of operation so-called is in reality the mortality of delay. Bearing this in mind, we must place the problem of the reduction of invalidism and death due to biliary infections in the hands of him who sees the patient first, namely, the family physician.

109. Treatment of Exophthalmic Goiter.—It was Musser's belief that endemic goiter should not be treated surgically until proper general treatment has been employed for a long period. Surgical intervention should not be advised in cases of goiter associated with functional or organic disturbances of other secretory organs until the associated disorders are removed or relieved. If relapse occurs in spite of general treatment, or in spite of treatment directed against the disorders of other organs, a goiter should then be treated surgically. Medical treatment should be continued from six to twenty-four months. Favorable results should not be promised unless the patient is under the absolute control of a physician so that treatment by rest, diet, bathing, physical therapy, and so forth may be carried out with precision and continuity. Surgical intervention requires the same rigid and prolonged after-treatment to give permanent results. Finally, he thought that the surgeon does too much and the internist too little in the treatment of goiter.

112. Management of Asthma in Children.—It has been McClanahan's experience that one drug will not relieve all cases. In two cases, he has given adrenalin solution hypodermically. In both cases the relief was so prompt as to leave no doubt as to the value of the remedy. On the other hand, he has seen it utterly fail. The dose for infants is from 3 to 5 minims of the 1/100 solution of adrenalin chlorid. He has attended one little patient a number of times, without any remedy giving relief, until morphin sulphate, 1/30 grain, was tried. Then in subsequent paroxysms this drug gave relief each time it was given. In another case chloral hydrate gave prompt relief. Other remedies had been given by him in previous attacks. In that case, 3 grains were given and the dose repeated in an hour. After the second dose this child was enabled to lie down and breathe with comfort. In one of the most severe cases he has ever seen the inhalation of nascent oxygen gave quick relief. This child was cyanotic, with cold, clammy skin, and short, panting breathing. The attacks came on without any preceding evidence of bronchitis. The oxygen was administered during three separate paroxysms, and always with prompt relief. In this particular case the attacks ceased at the age of 5 years and only recurred in a lighter form at the age of 18 years. At the time this patient was under McClanahan's care a local druggist had an apparatus for the extemporaneous preparation of oxygen, so that it was possible to apply the remedy promptly.

Basing his experience on the study of twenty cases, McClanahan affirms that the majority of infants and children suffering from asthma, ultimately recover. He has recently received reports from ten patients who had been under his care in past years. In eight cases there had been no return of asthma, and in the other two the paroxysms were lighter than in former years. The frequency and severity of the paroxysms can in a large measure be controlled by proper care and treatment. A limited number develop an emphysema, and as a result their general growth is permanently impaired. This is the most serious sequel of asthma, and because of this, all cases should receive prompt treatment, with a view of lessening the severity and frequency of the paroxysms. The general care of asthmatic children is important, because in most cases a careful study will reveal some exciting cause that can be removed, or some morbid condition, as constipation or indicanuria, that can be corrected. Attention to these suggestions with diligence in discovering and removing other possible causes, will enable many asthmatic children to enjoy comparative freedom from attacks, and to develop into happy, useful citizens.

116. Effects of Ureteral Obstruction on Kidney.—From the work done in connection with this subject, Beer draws the following conclusions: 1. Infection of a non-stenosed ureter may lead to a hydronephrosis. Perhaps this explains some of the cases of hydronephrosis in which no mechanical cause is found. 2. Infection of the ureter rarely leads to abscess formation, or to multiple abscesses of the kidney, unless the ureter is stenosed, and then only when the injected organisms are virulent. 3. Aseptic ligation of the ureter leads regularly to a primary hydro-ureter and at about three weeks atrophy and shrinkage of the hydronephrotic sac begins. 4. The idea that the use of catgut ligature material in pelvic work will not cause a permanent ureteral stenosis, if this organ is tied off, is erroneous. 5. Three to four months after ligation of the ureter the kidney is represented by a small fibrous mass, provided infection is not present. If infection is introduced a huge hydronephrotic sac without vestige of parenchyma results. 6. In face of infection, stones readily form both in the pelvis and bladder. 7. After three weeks' exclusion sufficient parenchyma persists to warrant an attempt at secondary implantation of the ureter into the bladder.

Virginia Medical Semi-Monthly, Richmond

June 7, XVII, No. 389-132

118 Use of Iodin in Conservative Surgery of Uterine Appendages. I. S. Stone, Washington, D. C.
119 Heart Tonics, Their Value and Limitations. W. P. Beall, Greensboro, N. C.
120 Salvarsan in Hereditary Syphilis. B. Lankford, Norfolk.
121 Constipation: Its Causes, Consequences and Treatment. F. B. Bishop, Washington, D. C.
122 Cystoscope, Technic in Examining Urinary Viscus. T. V. Williamson, Norfolk.

Journal-Lancet, Minneapolis

June 1, XXXII, No. 11, pp. 281-306

123 Suggestions to Medical Examiners for Life Insurance. H. W. Cook, Minneapolis.
124 *Treatment of Scleritis with Tuberculin. C. N. Spratt, Minneapolis.
125 Roentgen-Ray Notes. G. Earl, St. Paul.
126 *Unusual Complication of Acute Otitis Media and Mastoiditis. C. L. Larsen, St. Paul.

124. **Treatment of Scleritis.**—During the past year Spratt has treated one case of episcleritis and six cases of keratoscleritis with tuberculin. Five of the patients were women and two were men. The ages of the former were between 31 and 38 years. One man was 43, the other was 55 years of age. The right eye was the one affected five times and the left eye twice. Two of the patients had had previous attacks in the other eye. All were in good health except one, who had lost weight; another had had glands of the neck removed ten years previously. The location of the scleral infiltration was as follows: two on the temporal, two on the superior temporal, one on the nasal side, one above and one below the cornea. In three of the above cases the entire anterior portion of the sclera became involved later. All the patients gave a normal reaction to Koch's old tuberculin, one with 1.5 mg., two with 2 mg., three with 4 mg. and one with 10 mg. The lowest febril reaction was 100.2 F., the highest 102.6 F., the control temperature before injection being normal in each. A local reaction was obtained in six cases. The maximum reaction was twelve hours after the injection in two cases, and thirty-six in another and an average of twenty-four in the others. One severe case was cured in six months after having had forty-five injections, the maximum dose being 20 mg. bouillon filtrate. A second severe case of ten months' duration was cured in three months after twenty-two injections, a maximum dose 150 mg. of bacillus emulsion. A third case of seven weeks' duration was cured in ten weeks after twenty injections, the maximum dose being 150 mg. A fourth patient under treatment with onset of trouble eight months previously and under treatment three months, has received twenty-six injections and is improving. A fifth patient, a case of five months' duration, treated with bacillus emulsion was cured in three months with eighteen injections, the maximum dose being 1/100 mg. A sixth patient, a case of eight months' duration, was much improved after the diagnostic dose of 10 mg. of old tuberculin. He was sent home to have the treatment continued by his physician. The seventh patient, a case of episcleritis of one month duration, is still under treatment and is improving.

126. **Complication of Acute Otitis Media and Mastoiditis.**—Larsen's case is interesting in that there was only one metastatic focus and that in a very unusual location, the sacroiliac joint.

Buffalo Medical Journal

June, LXVII, No. 11, pp. 601-662

127 Duties of Physicians in Regard to Insanity. F. E. Fronczak, Buffalo.
128 Unusual Case of Injury of Thorax. G. Foy, Dublin.
129 Traumatic Finger Amputations. A. H. Noehren, Buffalo.
130 Inflammation of Verumontanum and Posterior Urethra with Presentation of an Instrument. J. A. Gardner, Buffalo.
131 Perforations in Duodenal Ulcer. E. R. McGuire, Buffalo.
132 Typhoid Epidemic in Corning. F. S. Swain, Corning, N. Y.

American Journal of Urology, New York

June, VIII, No. 6, pp. 287-342

133 *Further Experience with Solution of Aluminum Acetate in Colon Bacillus Infection of Urinary Tract. I. S. Koll, Chicago.
134 Progress in Therapy of Gonorrhea. W. Karo, Berlin.
135 Postoperative Treatment Following Prostatectomy. L. W. Bremerman, Chicago.
136 Case of Auto-Inoculation of Chancroid. W. S. Reynolds, New York.
137 Unilateral Renal Hematuria. K. H. Aynesworth, Waco, Texas.
138 Essentials of Freud's Theory of Psycho-Analysis. C. P. Oberndorf, New York.
139 Combination Catheter-Applicator. R. L. Dickinson, Brooklyn.
140 Ureteral Pain Associated with Sacroiliac Relaxation. A. E. Gallant, New York.

133. **Aluminum Acetate in B. Coli Infections.**—Forty-two patients suffering from colon infections of the urinary tract, Koll claims, have been absolutely cured by the local use of liquor aluminum acetate. He emphasizes that the preparation of the liquor is of great importance. The National Formulary should be followed very closely. After the full strength solution is prepared, he advises diluting each time the liquor is employed, because unless a very carefully distilled water is used the carbonates of the water will throw down a heavy gelatinous precipitate of the aluminum hydroxid, which will leave free acetic acid. A second suggestion he makes, is to start with 1 per cent. in severely inflamed bladders and in each case control the irritation with opium suppositories.

Louisville (Ky.) Monthly Journal of Medicine and Surgery

June, XIX, No. 1, pp. 1-32

141 Value and Limitations of Vaccine Therapy. B. J. O'Connor, Louisville.
142 Acute Parenchymatous Hepatitis. J. G. Cecil, Louisville.
143 Drug Habits. W. F. Boggess, Louisville.
144 Infant Mortality and Midwife Problem. E. Shaver, Louisville.

Mississippi Medical Monthly, Vicksburg

June, XVII, No. 2, pp. 25-40

145 Rebate Evil in Medical Profession. A. G. Everett, Friars Point.
146 Practical Principles of Suggestion. S. T. Rucker, Memphis, Tenn.
147 Treatment of Eclampsia. S. E. Frierson, Lyon.
148 Surgery of Eyeball for Preservation and Restoration of Sight. A. C. Lewis, Memphis, Tenn.

Laryngoscope, St. Louis

April, XXII, No. 4, pp. 297-706

149 This Issue Contains a Complete Index-Medicus of Oto-Laryngology for 1911 and Abstracts of the Important Papers Published.

Bulletin of Manila (P. I.) Medical Society

April, IV, No. 4, pp. 67-95

150 Medical Conditions in Torrid Zone Collected by College of Medicine and Surgery, University of Philippines.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 1, I, No. 2683, pp. 1225-1276

1 *Duodenum and Appendix in Intestinal Stasis. A. C. Jordan.
2 *Auto-Inoculation Test in Tuberculosis. H. W. Crowe.
3 *Paths of Rheumatic Infection and Their Protection in Children. J. R. Mackenzie.
4 Standardization of Preparations of Indian Hemp. C. R. Marshal and J. K. Wood.
5 Bactericidal Action of the Cresols and Allied Bodies and Best Means of Employing Them. E. A. Cooper.

1. **Duodenum and Appendix in Intestinal Stasis.**—Intestinal stasis is held by Jordan to be responsible for many conditions. One of the most constant signs of intestinal stasis in women, Jordan says, is a nodular condition of the breasts, due to chronic mastitis; in more advanced cases the breasts become cystic and ultimately cancerous. A woman was sent into Guy's Hospital a few months ago for amputation of both breasts for supposed malignant disease. They were in a condition of advanced cystic disease. Mr. Arbuthnot Lane sent her to Jordan for Roentgen-ray examination of the intestines and he found that there was extreme intestinal stasis. Mr. Lane then treated the woman by the operation of "short-circuiting," that is, dividing the ileum near its lower end and suturing the divided end into the rectum. Within a week after the operation the breasts began to improve and at the end of three weeks they were practically normal, the only sign of disease now being a small nodule in one breast. The woman's general condition had improved greatly.

One result of stasis in the ileum is to allow bacteria to ascend from the large bowel, and to invade the upper reaches of the small intestine. Thus the duodenum is invaded by pathogenic bacteria, which ascend the common bile-duct and lead to cholecystitis and chronic pancreatitis. Gall-stones are then formed in many cases; if a gall-stone finds its way into the bile-duct an attack of acute biliary colic results and is diagnosed, though it is only a secondary result of intestinal stasis. The stasis in the ileum has another effect. The last coils of the ileum are normally placed above the pelvis; if there be any marked delay in the passage of the ileal contents into the cecum, these last coils of the ileum become overloaded and fall into the pelvis. In falling they drag on the mesentery; this drag is carried to the upper parts of the small intestine and pulls down the jejunum at its commencement. The third part of the duodenum being (normally) firmly fixed over a peritoneal band, while the jejunum is unsupported at its commencement, a kink is produced at the duodeno-jejunal junction and causes obstruction. The duodenum becomes distended and its mucous membrane congested. Pathogenic microbes act on

the congested mucous membrane and give rise to duodenal ulceration. The stomach also contracts very actively in these cases.

The appendix is the primary cause of intestinal stasis in a particular group of cases. In this group the proximal portion of the appendix is involved with the cecum in fibrous bands in such a way that the appendix actually controls, or even obstructs the end of the ileum while the patient is upright. Jordan says that intestinal stasis forms one of the most important and far-reaching branches of radiographic research and the systematic investigation of the alimentary tract by the Roentgen rays after a bismuth meal is rapidly becoming an essential preliminary to intestinal surgery, and, indeed, to medical treatment of the digestive system.

2. **Autoinoculation Test in Tuberculosis.**—An experience, drawn from some sixty odd tests, leads Crowe to form an extremely high opinion of the value of this method. He regards this test as so extraordinarily reliable that on its verdict alone treatment may be confidently applied or as confidently omitted, and he is convinced of its utility in directing the course of treatment and deciding the moment when cure is complete.

3. **Paths of Rheumatic Infection.**—The *Micrococcus rheumaticus* takes the path of least resistance. This may be an unhealthy throat, absorption from which frequently gives rise to general rheumatic infection, including peritonitis and appendicitis, directly through the vascular system. Or it may be localized in the bronchial tubes and give rise to pneumonia, with polyarthritis and endocarditis. An unhealthy condition of the intestinal wall may excite to activity the rheumatic agent, setting up acute rheumatic phenomena, with peritonitis or appendicitis as part of a general infection. A mild catarrh is produced at the seat of inoculation, and one, or more, of three factors in each case are present and promote the inroads of the micrococcus. Either (a) the physical resistance, or (b) the protective properties of the local tissue, or (c) defensive agencies of the blood, are below par. The distinction between acute and subacute or latent rheumatism is mainly due to general infection with the actual rheumatic agent in the former and with the toxins only in the latter. Hypertrophied adenoid tissue in the throat and nasopharynx, Mackenzie says, should be removed in the quiescent stage. Simple congestion of the pharynx, palate and fauces in a child with a rheumatic family or previous history, or with a rheumatic facies, should always be looked on seriously, and met with local applications of salicylic acid preparations, together with sodium bicarbonate, sodium salicylate, potassium chlorate and aperients. A 5 per cent. to 10 per cent. solution of sodium salicylate applied to the tonsils, palate and pharynx gives a protective film from further contamination and does not impair the defensive action of the tissues; or a gargle containing 20 to 40 grains to the ounce is equally efficacious. Care should be taken that decayed teeth are stopped or extracted and the tooth-brush and antiseptic powder should be insisted on daily. Inhalation for half an hour, three times a day, of 10 min. of a solution of equal parts of creosote and phenol (carbolic acid), Mackenzie believes is the best method of protecting the pulmonary mucous membrane. His experience is that sodium salicylate combined with sodium bicarbonate and rhubarb powder is by far the best protective treatment in cases in which there is any indication of excess of mucus in the intestine, the alkali acting as a solvent, the rhubarb clearing the offending material away and the salicylate acting as a sedative and healing agent to the mucous membrane.

Australasian Medical Gazette, Sydney

April 20, XXXI, No. 16, pp. 405-430

6 Modern Treatment of Syphilis. R. B. Harrold.
7 Syphilis. C. T. Ch. de Crespigny.
8 Ophthalmic Aspect of School Medical Inspection. T. Smith.

April 27, XXXI, No. 17, pp. 433-460

9 Quarantine in Queensland. J. S. C. Elkington.
10 Etiology of Bovine Oncocerciasis. J. B. Cleland.
11 Surgical Equipment of Country Practitioner. G. S. Samuelson.

May 4, XXXI, No. 18, pp. 461-488

12 Gonorrhea and Salpingitis. J. K. Couch.
13 Torsion of Great Omentum. C. E. Corlette.
14 Case of Esophageal Stricture. A. G. Salter.
15 Plea for More Systematic Teaching of Anesthetic Administration. J. W. B. Bean.

Lancet, London

June 1, I, No. 22, pp. 1451-1514

16 *Relations Between Human and Bovine Tubercle Bacillus. G. S. Woodhead.
17 *Medical Treatment of Cholelithiasis. P. Mayer.
18 Improved Method for Opsonic Index Estimations Involving Separation of Red and White Human Blood Corpuscles. C. Russ.
19 *Case of General Infection by Influenza Bacillus. J. M. Clarke.
20 Operative Treatment of Concomitant Strabismus. E. K. Campbell and G. F. Alexander.
21 Two Cases of Mercurial Poisoning. A. J. Hall.
22 Acute Focal Encephalitis. G. W. Watson.

16. **Human and Bovine Tubercle Bacillus.**—Woodhead does not agree with those who maintain that bovine tuberculosis is a negligible quantity in respect to the spread of tuberculosis among human patients. He is of the opinion, rather, that as we go more deeply into the subject, and extend the scope of our inquiries, the bovine side of the question comes to take a larger and larger place in our scheme, especially, of course, in connection with surgical and abdominal tuberculosis, not only in the child, but even in the adult.

17. **Medical Treatment of Cholelithiasis.**—It is emphasized by Mayer that the guiding principles in the treatment of cholelithiasis are derived from the well-established facts that stagnation of the bile is the fundamental condition for the production of concretions, and that in chronic inflammatory cholelithiasis infection plays the most significant rôle, infection in its turn being favored by stasis of the bile. Since the formation of stones is always a secondary phenomenon, it would be irrational to direct treatment exclusively against the stones themselves, because, even after the expulsion of some of the stones, if the stasis and inflammation continue, stones still remaining behind may grow larger, and new stones may form. As a consequence the conviction becomes more and more firmly established that the object of medical treatment consists not in the expulsion of the stones, but in the prevention of the formation of new stones by combating stasis and inflammation, and in bringing stones already present to rest, thus inducing a latency of the disease, which is in effect almost a recovery, since stones often remain for years as harmless foreign bodies as soon as the flow of bile becomes normal and the inflammatory process ceases.

In his experience of all the substances recommended for this purpose Mayer attributes a genuine value to salicylic acid only. Salicylate of soda with extract of belladonna he has often found valuable in practice. Nevertheless, he does not at all believe that the salicylic acid exerts its effects on account of its cholagogue action, but is much more strongly of the opinion that its chief influence is on the inflammatory symptoms. Consequently he has seen the best results with salicylic acid in acute and chronic cholecystitis, especially with simultaneous rest in bed and the application of hot compresses. In such cases he gives from two to four times a day a powder of sodium salicylate 0.5 gm. (8 gr.), and extract belladonna 0.01-0.02 gm. (⅙-¼ gr.), dissolved in warm water. With all the other so-called cholagogue agents, which are always being vaunted as curative agents for cholelithiasis, he has never obtained definite results. In his experience the value of the oil cure has not proved very great. The oil can be useful only for the simultaneous colitis or spastic constipation which not infrequently complicates cholelithiasis.

19. **Infection by Influenza Bacillus.**—Clarke's case presents several points of interest. There had been a purulent discharge from the left ear at times for some years. The onset of fever was gradual, so that the precise day of onset could not be fixed, but it occurred between two and three weeks after an operation for removal of enlarged tonsils. After admission to the hospital the ear discharge yielded a pure culture of Pfeiffer's influenza bacillus. Cultures from the blood taken toward the end of the second week of the fever, and after the occurrence of two rigors, also gave a pure culture of the same bacillus. The inference would seem to be that the bacillus was present in the ear discharge and obtained entrance to the blood through the open wounds left by removal of the tonsils, and produced an acute septicemia. This appears to be a striking example of the tonsillar route for a general

infection. The resulting septicemia was of gradual onset and was a very severe one. For two or three weeks the prospect of recovery appeared dubious. A further point of interest was the intervention of a cardiac murmur during the course of the illness. The presence of this murmur, in conjunction with the severity of the general symptoms, gave the illness a close resemblance to malignant or ulcerative endocarditis. Some days before the advent of the murmur, an apical or mitral regurgitant one, soft in character, there was accentuation of the pulmonary second sound. The starting of the murmur coincided with signs of a moderate dilatation of the left ventricle; it subsequently disappeared, but a slight enlargement of the cardiac dulness remained. The murmur was not due to endocarditis, but to dilatation of the mitral valve due to a toxic myocarditis, and consequent relaxation of the mitral sphincter and of the wall of the left ventricle.

Australian Medical Journal, Melbourne

April 6, I, No. 38, pp. 417-428

23 Congenital Hypertrophic Pyloric Stenosis. A. A. Lendon.
24 Color Blindness. L. J. C. Mitchell.
25 Case of Subacute Infective Arthritis (Still's Disease) Treated by Vaccines. A. V. M. Anderson.

April 20, I, No. 40, pp. 441-452

26 Etiology of Ectopic Gestation. F. Meyer.
27 Cardiac Irregularities in Childhood. H. H. Turnbull.

April 27, I, No. 41, pp. 453-464

28 Second Case of Complete Rupture of Uterus, Successfully Treated by Operation. A. W. D. Robertson.
29 Case of Hypertrophic Pyloric Stenosis, Successfully Operated on by New Method. W. H. Brown.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXIX, No. 5, pp. 257-320

30 *Serodiagnosis of Pregnancy. (Nouvelles recherches sur la présence des anticorps chorio-villeux chez la femme enceinte des premiers mois.) Fieux and P. Mauriac.
31 Cancer of the Clitoris. (Quelques recherches sur les lymphatiques du clitoris.) H. Rouvière. (Technique de l'ablation de l'epithéliome primitif du clitoris.) H. Hartman.
32 Abdominal Operation for Ovarian Tumors During Pregnancy. (Ablation par voie abdominale des tumeurs ovariennes pelviennes.) A. Couvelaire.
33 Treatment of Ovarian Cyst Interfering with Delivery. (Ponction vaginale dans le traitement des kystes de l'ovaire prævia au cours du travail.) E. Lepage. (Ablation des kystes ovariens prævia pendant le travail.) C. Sauvage.
34 Treatment of Torsion of Ovarian Cyst in the Puerperium. (Le moment opportun de l'ovariotomie dans la torsion pédiculaire des kystes ovariques pendant les suites de couches.) E. Mériel.

30. **Serodiagnosis of Pregnancy.**—Fieux and Mauriac have examined 103 women and found their previous statements confirmed in regard to the fixation of complement as a constant phenomenon in the blood of women during the second and third month of pregnancy. It subsides entirely by the end of the fourth month. They explain it as the action of a specific antibody generated to protect against the toxic or destructive action of the young villi of the chorion. The findings with the hemolytic test are as pronounced, they say, as with the Wassermann test. The antigen used was the desiccated pulverized villous masses taken from living ova at the second or third month. The technic otherwise resembles that of the Wassermann test, as is described in detail, with the history of the most recent series of thirty-three cases. The reaction was never obtained with serum from non-pregnant women or women over five months pregnant.

Annales de l'Institut Pasteur, Paris

May, XXVI, No. 5, pp. 321-400

35 Hydrolysis of Saccharose. (Recherches sur l'hydrolyse comparée du saccharose par divers acides en présence de la sucrase de levure.) G. Bertrand and Rosenblatt.
36 *Experimental and Clinical Research on Exanthematous Typhus. III. C. Nicolle and E. Conseil.
37 *Trichinosis. M. Romanovitch.
38 Poisons Produced by the Aspergillus Fumigatus. E. Bodin and C. Lenormand.

36. **Typhus.**—In the research carried on during 1911 at the Pasteur Institute at Tunis, guinea-pigs proved susceptible to exanthematous typhus when inoculated in the peritoneum with 2 or 4 c.c. of blood from an infected patient or monkey, while sheep, goats, dogs, rabbits and hens proved refractory to experimental inoculation. No appreciable benefit was derived in clinical cases from therapeutic injection of serum from convalescents or salvarsan, while the latter was found dangerous. Tartar emetic was also inactive, and epinephrin in twelve cases had no preventive influence on the drop in the arterial pressure, and no effect from it was apparent on the fever or duration of the disease. The virus of the disease does not seem to act specially on the adrenals. A fixation abscess seemed possibly to reduce the frequency of secondary complications.

37. **Trichinosis.**—Romanovitch's research has demonstrated anew that the trichina sows microbes along its way as it passes through the intestinal mucosa, and that the dominant character of the infections due to the trichina is polymicrobian. It is probable that the fever and septicemia are the result of this secondary inoculation. The larvæ are deposited in or near the lymphatic vessels and getting into the lymph stream pass thence into the blood. Daily examination of the blood might thus reveal the trichinosis in its earliest incipiency. One attack of trichinosis does not prevent future attacks, and he knows of no means to prevent or abort trichinosis. The evolution of the helminthiasis may sometimes be retarded by injections of tartar emetic, but salvarsan does not seem to display any action on the trichina larvæ.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

May, XVII, No. 5, pp. 401-496

39 The Corpus Luteum in Cholesterin Production. (Fonction cholestérinigénique du corps jaune.) A. Chauffard, G. Laroche and A. Grigaut.
40 Cervical Cesarean Section. (L'opération césarienne conservatrice cervicale transpéritonéale.) G. Heinricius.
41 Retention of Nitrogen During Pregnancy. (L'élaboration des albumines de la ration chez la femme enceinte soumise au régime lacté et la nature de l'azote retenu par l'organisme gravide normal.) J. Lemeland.

Bulletin de l'Académie de Médecine, Paris

May 14, LXXVI, No. 20, pp. 359-381

42 Vaccination Against Typhoid. (Remarques sur la vaccination antityphique. A propos de 5,000 cas d'immunisation par les vaccins polyvalents.) H. Vincent.

May 28, No. 22, pp. 391-401

43 Salvarsan in Syphilis. (Un an de pratique des injections intraveineuses de salvarsan dans le traitement de la syphilis.) E. Bodin and A. Netter.
44 *Improved Technic for the Wassermann Test. (Utilité, pour le diagnostic de la syphilis, d'adjoindre systématiquement à l'épreuve de la réaction de Wassermann proprement dite, une épreuve identique avec sérum non chauffé.) Hallion, Bauer and F. Balzer.

44. **Improved Technic for Wassermann Test.**—Hallion and Bauer state that it is very little more trouble to apply the Wassermann test with the usual technic and parallel it with the same test without heating the serum. This gives extreme accuracy in the findings and throws light on dubious cases.

Grèce Médicale, Syra, Greece

March 15, XIV, Nos. 5-6, pp. 9-12

45 Appendicitis Consecutive to Lesions in Ovaries or Fallopian Tubes. (Appendicite et annexite.) A. Rives and S. N. Oeconomos.
46 Experiences with Salvarsan in Syphilis. (Indications et résultats du "606.") P. N. Divaris.

April 15, Nos. 7-8, pp. 13-16

47 Post-Traumatic Glycosuria. (3 observations de glycosuries post-traumatiques.) S. N. Oeconomos and E. Chauvin.
48 Chemistry of the Respiration in Tuberculosis. (Chimisme respiratoire dans la tuberculose.) P. N. Divaris.

Journal de Médecine de Bordeaux

May 19, XLII, No. 20, pp. 305-320

49 *Abuse of Dietetic Treatment of Arteriosclerosis. (Les abus de régimes dans le traitement de l'artériosclérose.) Fraikin and G. de Cardenal.

49. **Abuse of Dietetic Restrictions in Arteriosclerosis.**—When patients are advised to restrict their diet in certain directions to keep arteriosclerosis under control, they are apt to go to extremes. The consequence is they suffer from inanition and lack of certain necessary elements in their food. The resulting disturbances they regard as part of their arteriosclerosis syndrome and resign themselves hopelessly to bear them, when, in reality, they are unnecessary and can be arrested at once by a more rational diet. The lassitude, loss of flesh, tendency to insomnia and headache of such patients are liable to be ascribed to the arteriosclerosis and the diet restricted still further. A more nourishing and varied diet sweeps away the clouds and the sun shines into their lives once more. The evils

of dietetic abuses are particularly serious in patients with high blood-pressure and neurasthenia, and it is possible that a mild arteriosclerosis may be aggravated by them. The restriction to "white meat" is bad; "red meat" is better digested and generates less toxins than young white meat, young lamb and veal. Milk should not be taken too exclusively or for too long a time. Salt is useful; it maintains the appetite and aids digestion and it should not be suppressed except when this is really necessary. Fraikin and Cardenal conclude these reflections with the statement that with arteriosclerosis moderation is the main thing. The patient should eat moderately, neither too much nor too little, more when exercising than with a sedentary occupation. The diet should be regulated, modified and changed to suit the individual patient and existing conditions at different periods.

Lyon Médical, Lyons

May 12, XLIV, No. 19, pp. 1005-1068

50 *Open Defect in Interventricular Septum. (Maladie de Roger avec cyanose par communication interventriculaire et phthisie fibreuse.) L. Gallavardin.
51 Syphilitic Pseudohypopyon. Rollet.

May 19, No. 20, pp. 1069-1128

52 *Determination of Ammonia in the Blood a Simple Test of Kidney Functioning. (Médecine expérimentale: Urémie et ammoniémie.) J. P. Morat.
53 Immunity and Anaphylaxis in Tuberculosis. P. Courmont.

50. **Effects of Defect of the Septum of the Ventricles.**—In 1879 H. Roger discovered a condition characterized by (1) an interventricular perforation without any other cardiac lesion; (2) a peculiar blowing murmur accompanied by a thrill; hence called Roger's murmur, and (3) the absence of any special clinical symptoms, such as cyanosis or shortness of breath. Gallavardin wishes to extend the name of "Roger's disease," as this condition is generally called, to cover cases having a similar cardiac lesion but accompanied by clinical symptoms, such as cyanosis, and by other pathological conditions, particularly tuberculosis. These cases he divides into four classes: (1) Roger's disease, badly borne but without cyanosis or tuberculosis; he cites two cases of infants dying at 9½ and 15 months; (2) Roger's disease with cyanosis but without tuberculosis, of which form he cites three cases; (3) Roger's disease with tuberculosis but without cyanosis; several cases; and (4) Roger's disease with tuberculosis and cyanosis, and he reports a case of this form. The patient was a girl 23 years old, presenting extreme cyanosis with the physical signs of interventricular communication and fibrous pulmonary tuberculosis which had been developing for eight years; pulmonary stenosis was suspected. Necropsy showed an opening between the ventricles nearly the size of a silver quarter, with no other cardiac malformation; very extreme degree of fibrous tuberculosis with tremendous hypertrophy of the right ventricle, and aortic aphasia. He thinks that the development of the tuberculosis was favored by the plethora and the hypertension brought about by the added amount of blood forced into the pulmonary artery. He concludes that the affection in question is not a disease but a lesion, and its clinical significance depends not alone on the size of the opening but also on its location and on the amount of strain to which the heart is subjected during life. A perforation which might have been insignificant in a normal heart would be badly borne in case of pulmonary disease, right-sided hypertrophy or other cardiac lesion. Though this is not a definite heart disease, it is at least an important factor in certain organic dystrophies, such as aortic aplasia and infantilism; it may create a predisposition to pulmonary tuberculosis, may modify the course of that disease, and add to the clinical picture an extreme cyanosis.

52. **Ammonia in the Blood as Index of Kidney Functioning.**—Morat found in his research that ammonia carbonate was present in the blood and intestines when the kidney functioning was impaired (ureters ligated in dogs). The ammonia carbonate is generated from the urea passing into the intestines and hydrolyzed by the action of the microbian flora. The proportion of ammonia carbonate in the blood is thus an index of the permeability of the kidneys for urea and, Morat adds, the determination of the carbonate in the blood is a much simpler and easier matter than dosage of the urea content.

Revue de Chirurgie, Paris

May, XXXII, No. 5, pp. 685-864

54 *Exclusion of the Duodenum in Treatment of Subpyloric Duodenal Ulcer. Vautrin.
55 *Membranous Pericolitis. (A propos de 2 cas de sténoses suscæcales avec péricolite membraneuse.) X. Delore and H. Alamartine.
56 Operative Measures Excluding All or Part of the Large Intestine. (Des exclusions ouvertes partielles et totales du gros intestin.) A. Marro.
57 *Camphorated Oil in Treatment of Peritonitis. (L'injection intrapéritoneale d'huile camphrée à 1 p. 100 dans le traitement des péritonites diffuses algues.) A. Vignard and L. Arnaud.
58 *Uterine Injections of Zinc Chlorid Solution in Treatment of Chronic Metritis. P. Mocquot and J. Mock.
59 Traumatic Lesions of Testicles and Epididymis; Five Cases. Barthelémy and M. de Larocquette.
60 *Operative Treatment of Primary Tumors in Lungs or Pleura. (Etude du traitement chirurgical des tumeurs primitives de la plèvre et du poumon.) J. Guyot and A. Parcelier. Commenced in No. 1.

54. **Treatment of Duodenal Ulcer.**—Vautrin remarks that as a duodenal ulcer is of peptic origin, it follows that when the irritating hydrochloric acid can be kept away from it, the ulcer will heal. This is often possible by medical means, dieting to reduce production of acid, plus ingestion of alkalies to neutralize what is on hand. Under systematic perseverance with these measures he has cured patients with no sign of recurrence for eight or ten years to date. Old chronic ulceration with hard edges will never yield to medical measures alone, while it is a constant source of danger. The simplest, quickest and most effectual operative means to prevent further corrosion from the gastric juice is to shut off the duodenum entirely. A gastro-enterostomy alone does not answer the purpose unless the pylorus is already impermeable. The exclusion should be done 2 or 3 cm. above the tumor, in sound tissue. He throws a ligature around the trunk of the gastro-duodenal artery to ensure against hemorrhage and does this also as a precautionary measure when only gastro-enterostomy is done. He reports a case of hemorrhagic duodenal ulcer with symptoms recurring during two years and during the following year there was severe hemorrhage from the ulcer on six occasions. The duodenum was severed close to the pylorus, the stumps were sutured separately, followed by gastro-enterostomy. The patient, a woman of 42, was thus cured at one stroke of all disturbances and has been in good health since. She still takes pains to conform to a diet that keeps the tendency to hyperchlorhydria under control.

55. **Stenosis Above the Cecum with Membranous Pericolitis.**—Many cases with symptoms simulating those of appendicitis are due to other lesions of the large intestine. Delore and Alamartine report two cases in both of which they found membranous pericolitis with a resultant stenosis of the intestine above the cecum. One was probably due to an old appendicitis, the other to a chronic enterocolitis. In the first case they performed an ileocolostomy and in the second a cecocolostomy with complete recovery in both cases. The inflammation which leads to the formation of a membrane may originate anywhere in the intestinal tract or even in the bladder or uterine adnexa. They think it is frequently tuberculous in character. In all operations for appendicitis, the ileum, the cecum and the ascending colon should be carefully examined for constriction. Intestinal anastomosis is preferable to simple breaking up of adhesions, as experience has shown that they are liable to recur. The appendix should be removed in all cases even if apparently normal.

57. **Intraperitoneal Injection of Camphorated Oil.**—The use of 1 per cent. camphorated oil in acute peritoneal infections is increasing, and shows marked results. Its favorable action is due to the fact that it seems to prevent lymphatic absorption of bacteria and toxins and prevents the formation of adhesions, lubricating the loops of intestine so they do not stick together. Minor benefits are its tonic heart action and its antiseptic properties. Vignard and Arnaud report considerable experiences with it, injecting 200 or 300 c.c. in adults. They state that it is absolutely harmless.

58. **Treatment of Chronic Metritis.**—Mocquot and Mock here report the favorable experience in Delbet's service with uterine injections of a 30 or 40 per cent. solution of zinc chlorid, which Delbet has been applying since 1897. He regards it as decidedly superior in its results to curetting, while it is a far simpler

and less hazardous procedure and can easily be done by any practitioner, the patient having only to rest a few hours afterward and is up and about the next day. The best results can be counted on in hemorrhagic metritis, especially when consecutive to an abortion; a single injection will often cure in these cases. In the metritis of elderly women, or with sclerosis or myoma, more injections are necessary for the same result. In glandular and parenchymatous metritis the effect is most marked on the pain and enlargement of the uterus; these subside but the leukorrhea generally persists. In addition to chronic metritis, the method is applicable whenever curetting is indicated. A 40 per cent. solution is used in the hemorrhagic cases and 30 per cent. in others; 1 or 2 c.c. is sufficient and never more than 3 c.c. is used even when the uterine cavity is abnormally large. The cannula is introduced to the bottom of the uterus and the fluid injected without pressure as the cannula is withdrawn, twisting it around to irrigate the entire surface of the mucosa. The vagina must be carefully protected against any contact with the fluid, and afterward a vaginal douche is given. Pain from the injection is prevented by previous anesthesia of the uterine cavity, but occasionally there is tardy pain, uterine colic, suggesting labor pains, but they can be soothed by moist heat to the abdomen or laudanum enemas. It is impossible to foretell which patients will or will not have these pains. In some cases they are quite severe, with vomiting and a tendency to syncope. Cuche advocates a systematic injection of morphin after each cauterization. Delbet waits for the eschar to be thrown off before repeating the injection, if more than one is required; this usually occurs in six or seven days. After three injections he waits for the result; if not satisfactory he gives a new series. No mishaps have ever occurred from the method in Delbet's service, and scarcely a day passes in which it is not applied.

60. Primary Tumors of the Pleura or Lung.—Guyot and Parcelier state that in fifty-six cases on record of sarcoma of the lung, its removal was attempted in seventeen cases, including one here reported. Seven operative cases of carcinoma of the lung are on record; the liability to metastasis is exceptionally great with these growths, but one of these patients was known to be in good health a year after the operation. None of the sarcoma patients long survived. In the personal case reported, the patient gained thirteen pounds in four months but then the patient began to spit blood anew and a metastatic tumor in the old region gradually assumed large dimensions. The symptoms of a primary tumor in the lung closely resemble those of an incipient tuberculous process; hemoptysis coming on in apparent health without cough, dyspnea or fever, and spontaneously subsiding. There is generally local pain suggesting intercostal neuralgia. Differentiation is mainly by exclusion, with the aid of laboratory methods. Exploratory puncture is misleading and may be dangerous. Roentgenoscopy is the main reliance. An echinococcus cyst generally has a more rounding outline than a malignant growth. Primary cancer was operable in only 4 per cent. of the total cases reviewed. The details of thirty-nine operative cases of a primary tumor in the lungs or pleura are summarized.

Revue Mens. de Gynéc., d'Obstétrique et de Pédiatrie, Paris

April, VII, No. 4, pp. 225-303

61 Phlegmon in the Broad Ligament and Parametritis. (Perimétrosalpingite et phlegmon du ligament large.) S. Pozzi.
62 *Cesarean Section After Rupture of Membranes. (L'opération césarienne conservatrice exécutée tardivement après rupture des membranes.) A. Grosse.
63 *Oxygen as Adjuvant in Reviving Asphyxiated New-Born Infants. (Sur l'emploi de l'oxygène pur comme traitement de la mort apparente du nouveau-né.) P. and J. Delmas.

62. Cesarean Section After Rupture of the Membranes.—Grosse reports three cases which supplement nineteen previously reported by Le Lorier. They all confirm the advantages and harmlessness of the measure at need. In the three cases the bag of waters had been ruptured seven, twenty-nine or forty-two hours before the operative delivery, but none of the mothers or children succumbed in the total twenty-two cases. It was required on account of ovarian cyst or contracted pelvis in two of the last series; in the latter cases the operation was done at the patient's home in the country.

63. Oxygen for the Asphyxiated Newly Born.—Delmas and Delmas have blown oxygen directly into the infant's lungs in three cases during the last year, rhythmically compressing the chest to promote the artificial respiration, the fingers under the child's back and the thumbs at the nipples, the elasticity of the walls of the chest causing inspiration as they spring back into place when the compression is relieved. In some severer cases they injected the oxygen subcutaneously into the cellular tissue of the chest until the skin was distended to the size of a mandarin orange. The oxygen was soon entirely absorbed, the pulse becoming regular, the heart beat stronger and the lungs soon breathing normally in the favorable cases. The method is thus useful not only in treatment but for the prognosis. They were able to generate oxygen for insufflation, when they had no tank, by moistening sodium peroxid. In contact with water, a piece weighing 10 gm. will generate 2 liters of nascent oxygen. The chemical is placed in a tumbler or vase covered with a funnel; a rubber tube over the mouth of the funnel conveys the oxygen to the child. The oxygen might possibly be introduced into the rectum, but they have had no experience with this method. The Delmas are the professor of obstetrics and the chief of the maternity connected with the university of Montpellier.

Semaine Médicale, Paris

June 5, XXXII, No. 23, pp. 265-276

64 *Hemolytic Splenomegaly. G. Banti.

64. Hemolytic Splenomegaly.—Banti calls attention to an affection which he thinks has never been described before, but which has not only much scientific interest but is remarkable, further, for the prompt cure by removal of the spleen. It resembles on one hand the primary splenomegaly known as Banti's disease, while on the other hand it resembles hemolytic jaundice. He tabulates the findings in detail from a typical case, the patient a young woman of 26, the reds dropping from nearly four million to 1,615,000 in four months. The spleen was then removed and the reds increased to over five million in less than three months and have persisted normal since. The necessity for and benefit from splenectomy was equally marked in a second case, the patient a man of 23, and Banti is convinced that certain cases published under other headings were in reality of this type. There was no history of malaria, jaundice or syphilis in his cases but progressive anemia developed in connection with enlargement of the spleen and jaundice without clay-colored stools, but with urobilin and bilirubin in the urine and a special reaction on the part of the blood marrow indicated by changes in the composition of the figured elements of the blood. The syndrome closely resembles that induced in animals by certain blood-destroying poisons.

Berliner klinische Wochenschrift

May 27, XLIX, No. 22, pp. 1021-1068

65 Phlegmon from Foreign Body in the Esophagus. (Retroösophageale Phlegmone durch Fremdkörper.) F. Karewski.
66 Splenic Anemia in Man of 36 Cured by Splenectomy. (Anaemia splenica, geheilte durch Milzexstirpation.) G. Klemperer and R. Mühsam.
67 Cancers in Lepers. (Weitere Untersuchungen über die Krebssterblichkeit unter den Leprakranken.) M. Soegaard.
68 Heredity and Sociology. (Vererbung und Soziologie.) W. Weinberg.
69 Production of Antibodies in Cultures of Living Body Cells. (Ueber Antikörperbildung in Kulturen lebender Körperzellen.) H. Lüdke.
70 Tartar on Teeth as Deposits of Lead in Lead Poisoning. (Zur Zahnpflege im Bleibetriebe.) V. Hinze.
71 Radium Emanation in Therapeutics. (Ueber den Emanationsgehalt des Blutes nach Trinken von Emanationswasser.) W. Engelmann.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

May 23, XV, No. 4, pp. 219-346

72 *Early Diagnosis of Kidney Tumors. (Die Diagnose der Nierentumoren.) P. Frangenheim.
73 *Heart Disturbances with Uterine Myomas. (Herzstörungen bei Myoma uteri.) R. T. Jaschke.
74 *Swallowed Fruit Stones. (Die Folgen verschluckter Fruchtkerne—mit Mitteilung eines Falles.) J. Borggreve.
75 *Ultimate Results of Operative Treatment of Chronic Gastric Ulcer. (Zur chirurgischen Behandlung des chronischen Magengeschwürs.) E. Gressot.

72. **Early Diagnosis of Kidney Tumors.**—Frangenheim gives a critical oversight of 265 articles in international literature on the diagnosis of kidney disturbances, especially the early diagnosis of tumors in the kidneys, emphasizing the instructive features of each. None of the modern methods of investigation has equalled in diagnostic importance the classic triad, pain, hematuria and tumefaction, but many tumors in the kidney run a latent course. In adults hematuria is generally the earliest symptom, but it is rare in children. The bleeding usually continues through the entire micturition; it may begin without apparent cause or pain or may follow palpation or jar from any cause, driving or running. Blood-stained urine may alternate with normal urine. Generally the hematuria is of brief duration. Cystoscopy is important as even with a palpable tumor the blood may come from the other kidney. The pain with a kidney tumor is described as a dull ache, coming on spontaneously and not influenced by repose or exercise as a rule. The pain may radiate from the lumbar region to the liver, abdominal walls, bladder, anus, testicles or vulva, or into the hips, thighs, shoulders or breast, in the latter case suggesting intercostal neuralgia, or there may be reflex pain in the other kidney. Pasteau has called attention to some new remote tender points with kidney disease. They are along the course of nerves which issue from the spinal cord at the same point as those which innervate the kidneys. He lists the old and new as (1) the corner between the twelfth rib and the spine; (2) the tip of the angle formed by the last rib and the lumbar musculature; (3) in front, at the end of the tenth rib; (4) at the umbilicus, on a line crossing McBurney's point; (5) on a line connecting the iliac spines; (6) at the point where the ureters enter the bladder; (7) a point upward and inward from the anterior superior iliac spines; (8) at the external inguinal ring, and (9) in the abdominal wall at the side, above the center of the crest of the ilium. Nizzoli calls attention to a characteristic tender point at the outer margin of the sacrolumbalis muscle. These points are tender when the kidneys are pathologic and not otherwise. Israel found fever a pathognomonic and sometimes the only symptom of cancer of the kidneys or adrenals free from febrile complications. This was the case in 8.2 per cent. of 146 cases. Roentgenoscopy is of not much use in diagnosis of kidney tumors. The absence of cachexia with a kidney tumor of long standing suggests that it is a hypernephroma.

73. **The Heart with Uterine Myoma.**—Jaschke's study is based on ninety articles that have been published bearing on the relationship between uterine myomas and loss of cardiac compensation or cardiac disturbance of any kind. The internists until recently focused their attention exclusively on the heart disturbances, ignoring the uterine lesion, while the gynecologists did the same with uterine lesions, overlooking any cardiac disturbances or regarding them as out of their province. Consequently the assumption of a connection between them is of comparatively recent date as in all the specialties more attention is being paid now to borderland problems. Jaschke concludes from careful sifting of the data on hand that there is no case on record in which it has been proved beyond question that any existing functional derangement or subjective disturbances in or from the heart had any causal connection with a uterine myoma. On the other hand, there are countless cases of uterine myomas in which the circulatory apparatus is known to be and persist entirely sound. The tendency to cardiovascular disturbances, thrombosis or embolism, recorded as rather more frequent in myoma cases, is explained by the anemia resulting from the local hemorrhages. In other cases careful study of the remote history will reveal injury of the heart from acute infections long before, with functional disturbances at the time or later. In another group of cases the women shrink from an operation to remove their myoma and they grow obese as they recline a great deal to ward off or arrest hemorrhage from the myomatous uterus, and the obesity and anemia then entail possibly serious conditions in the heart. The cooperation of internists, gynecologists, pathologists and chemists may open new horizons for treatment based on the internal secretions. This possibility is sustained by the often striking benefit from roentgenotherapy of myoma; this suggests that the myoma is the concrete result of hypersecretion of the ovaries. Other glands with an internal secretion are probably involved, especially the thyroid, so that in this way it is possible to conceive of an indirect causal connection between myomatosis and cardiac disturbances. In any event, he concludes, it is important in operating for uterine myomas to refrain from inflicting further injury with a general anesthetic; spinal anesthesia should be given the preference. The technic for the operation is also extremely important, aiming at rapidity, ligation of the separate vessels and avoidance of any measures for hemostasis liable to interfere with asepsis.

74. **Swallowed Fruit Stones.**—Borggreve summarizes 123 cases and tabulates the outcome, classifying the cases by the localization and nature of the foreign body, etc. Only 62 per cent. of the patients are known to have survived and 29 per cent. died of the total material, while 93 per cent. were saved in the thirty-four operative cases, including one boy of 16 whose stomach was opened to extract a peach stone. He urges an operation without delay if serious symptoms develop and progress, indicating lodgment of a fruit stone or stones in the intestines. The majority, however, pass along and are voided without disturbance of any kind, especially cherry stones and prune stones, but they are liable under certain conditions to cause great trouble, particularly when the lumen of the gastrointestinal tract is small, as in the young, or from stenosis.

75. **Operative Treatment of Chronic Gastric Ulcer.**—Gressot lists 114 recent articles on gastro-enterostomy or resection of the stomach, and forty-five others on the malignant degeneration of gastric ulcers, and he then reports the ultimate outcome in twenty cases of benign ulcer treated mostly by gastro-enterostomy. His material and the experiences of a long array of large clinics show that malignant degeneration of surgical ulcers occurs only in 2.3 per cent. of all cases after gastro-enterostomy, while it is liable to occur also after resection of the stomach. He is inclined to believe that the gastro-enterostomy actually has an inhibiting influence on malignant degeneration which might otherwise occur. The irritation maintained by the ulcer invites cancer, just as irritation elsewhere invites it, and the gastro-enterostomy, by permitting the ulcer to heal, does away with this inviting tendency to malignant degeneration later. The remote results of gastro-enterostomy in regard to the ulceration are good but still far from ideal. It is liable to be permanently followed by slight intermittent pains at a certain period after eating, possibly associated with vomiting. This "postgastro-enterostomy syndrome," as he calls it, is quite common; only three of his eighteen recently reexamined patients were free from it or from symptoms suggesting duodenal ulcer. At the same time, the improvement in comparison with their former condition was marked and all the patients were satisfied and grateful. His compilation confirms anew the greater tendency to malignant degeneration of ulcers at a distance from the pylorus, and of those with a tendency to bore deep and grow hard.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 1, XLII, No. 16, pp. 585-616

76 *The Campaign Against Nostrums and Quacks in Switzerland. (Der Kampf gegen Kurpfuscher und Geheimmittel im Kanton Basel-Stadt.) H. Hunziker.

76. **The Campaign Against Nostrums and Quacks in Switzerland.**—Hunziker states that the laws against the practice of medicine by unqualified persons are very strict in all but two of the cantons of Switzerland. Proceedings can be instituted against a quack for illegal practice of medicine, for personal injury, obtaining money under false pretenses, criminal negligence, and even for a misdemeanor such as when a woman advertised a proprietary under the scarehead "The Black Hand" and thus frightened a number of persons. The laws against nostrums are strict at Basel, close to the German border, so that the lay press has been kept free from advertisements of proprietaries to a considerable extent, but the law does not protect against the advertisements of foreign quacks if they do not refer to secret medicines and apparatus, nor against advertisements in periodicals published elsewhere.

Quack hypnotizers and midwives can advertise without interference and the law does not prohibit the distribution of advertising pamphlets. To remedy these evils, in 1901 several cantons united and organized a central station at Zurich where proprietaries and their advertisements were examined. The board in charge of the work consists of a physician, a pharmacist and a chemist—all appointed by the Zurich board of public health. In 1907 ten cantons had thus united. The work of the central station is similar to that of the local health authorities at Karlsruhe in Germany (frequently mentioned in THE JOURNAL). Analyses are made of proprietaries advertised in the local papers and in periodicals reaching the town, and the results of the analysis, with comment, are published in occasional pamphlets. The authorities at Basel have recently published the list of objectionable and unobjectionable proprietaries which have been advertised in late years in the local papers and they have sent the list to the local physicians and druggists in the district. Basel is not a healthy place for advertising quacks and they soon seek more congenial quarters, but numbers find quack practices a lucrative side-line, and it is hard to combat these. Hunziker remarks that the confident way in which quacks assure people that they can cure them and the prompt explanation they offer of the symptoms described, have a soothing and encouraging effect so that a certain transient benefit may be derived from their practices in some cases. He urges physicians generally to be on the alert and to call the attention of the public health authorities to infringement of the law by quacks. He begs all to work for uniform legislation so that the whole country can be rid of them. By concerted action it will be possible to drive them farther and farther back but he adds that it will never be possible to eradicate them entirely. As long as incurable diseases exist, the sick will always grasp at the straws offered them "for a consideration" by those who prey on their credulity.

Deutsche medizinische Wochenschrift, Berlin

May 30, XXXVIII, No. 22, pp. 1025-1072

77 *Abdominal Cramps. (Differentialdiagnose der abdominellen Krampfzustände und ihre Behandlung.) A. Albu.
78 Early Symptoms of Organic Nervous Disease. (Frühsymptome organischer Nervenkrankheiten.) K. Heilbronner. Commenced in No. 21.
79 Cutaneous Inoculation of Guinea-Pigs in Differentiation of Human and Bovine Tubercle Bacillus. (Differenzierung des Typus humanus und Typus bovinus des Tuberkelbacillus durch Kutaninfektion beim Meerschweinchen.) E. Tomarkin and S. Peschic.
80 *Steatorrhea in Exophthalmic Goiter. (Fettstühle beim Morbus Basedowii.) A. Bittorf.
81 Quantitative Tests for Albuminuria. (Quantitative. Eiweissbestimmungen im Harn und ihre praktische Brauchbarkeit.) C. Moewes.
82 *Death After Intravenous Injection of Hormonal. A. T. Jurasz.
83 *Syphilis in Etiology of Cardiovascular Disease. (Ueber Syphilis als Ursache von Herz- und Gefässerkrankungen.) R. Ledermann.
84 Titration of Acidity of Urine. (Ueber den praktischen Wert der Urinaziditätstitration.) P. Orlowski.
85 *Hemorrhoids. (Zur Aetiologie und Prophylaxis der Hämorrhoiden.) M. v. Lenhossek.
86 Operative Treatment of Meningitis. (Beiträge zur Chirurgie der Hirnhäute.) P. Herz.
87 Injury of Urethra from Trauma of Perineum. (Harnröhrenverletzungen durch Einwirkung stumpfer Gewalten vom Damme her.) W. Markens.
88 Improved Catgut. (Jodchromkatgut.) M. Claudius.
89 *Necessity for Reform in Medical Advertising. (Zur Bekämpfung des Heilmittelunwesens.) J. Schwalbe.

77. **Abdominal Pain.**—Albu discusses the various causes that may induce abdominal pain, commenting on the vagueness of the localization of the pains even by intelligent patients. The pain may be experienced at a distance from its starting point or it may spread so rapidly that the point of onset cannot be localized. Differentiation is, however, of paramount importance for treatment, attacking the cause. Dry or moist heat is the best symptomatic measure for cramp-like pain of any origin even when an acute inflammatory process is involved, such as cholecystitis. He has found particularly useful a folded towel dipped in hot water and then wrapped in flannel and renewed every ten minutes, or hot sitz or full baths up to half an hour long. Drinking hot water by the glass will often relieve. In exceptional cases, cold applications give more relief than heat. In all cases a rapid and vigorous purge is advisable. With pylorospasm, whatever its origin—and he says that nearly all stomach cramps are in fact merely spasm in the pylorus region—he recommends a course of olive oil for four or six weeks, from one to three tablespoonfuls, fifteen minutes before each of the three meals of the day. To render it more palatable, he mixes one or two yolks of eggs with it and 20 or 30 drops of peppermint water. In case of intestinal colic, he advises systematic oil enemas, the patient reclining on the left side or with the pelvis raised, thus injecting 100 or 200 gm. of sesame or other cheap oil and leaving it over night. If a sedative is necessary, he gives the preference to belladonna, 0.02 or 0.03 gm. extract of belladonna in a suppository, two or three times a day, unless morphin cannot be dispensed with.

80. **Steatorrhea in Exophthalmic Goiter.**—Bittorf adds another to the few cases on record in which over 50 per cent. of the fat passed unutilized through the alimentary tract, indicating functional disturbance in the pancreas, in connection with severe exophthalmic goiter, accompanied by defective heart and kidney functioning.

82. **Death After Hormonal.**—Jurasz' patient was a woman of 43 convalescing after removal of the gall-bladder which had been perforated by a gall-stone. The next day enterostomy was required to relieve the distention of the abdomen, and 20 c.c. of hormonal was injected. Fatal collapse followed, and nothing to suggest air embolism was found at necropsy; the heart was apparently normal. He says that there can be no doubt that the fatality was the direct consequence of the injection. This is the first case on record, he adds, in which the collapse after hormonal proved fatal. The sudden reduction of the blood-pressure from the action of the vasodilatin in the hormonal proved too much of a strain for the heart. The pulse had been 120, regular but small, before the operation, and under stimulants had become stronger and 114 the next day. The case warns against hormonal when the heart is weakened from any cause, and this is frequently the case with peritonitis and ileus. "Consequently," Jurasz concludes, "hormonal thereby loses its most important significance for surgery."

83. **Syphilis as Factor in Cardiovascular Disease.**—Ledermann states there was a history of cardiovascular disease in 103 of his 6,000 cases of application of the Wassermann test to the blood-serum. A positive reaction was obtained in twenty of the thirty-six cases of aneurysm of the aorta, and syphilis was probable in four more. The reaction was also positive in seventeen of thirty-six cases of arteriosclerosis, and dubious in another case. He calls special attention to this large proportion of positive reactions in supposedly ordinary arteriosclerosis.

85. **Prophylaxis of Hemorrhoids.**—Lenhossek shows that the anatomic structure of the anal canal is peculiarly non-resistant to mechanical and chemical influences. The zone intermediate between the skin and the rectal mucosa proper lacks the defenses of each, while scraps of stool are liable to lodge in lengthwise folds and cause both mechanical and chemical injury. This is easily demonstrated by a small cleansing enema taken after defecation; it always brings scraps of stool away with it. He recommends a small tepid enema as an indispensable measure to follow defecation, and relates that this systematic "anicure" has put an end completely to hemorrhoidal disturbances that had tormented him for years, and his friends have reported similar experiences.

89. **Druggists' Wrapping Paper.**—Schwalbe endorses the step taken recently by the organized internists of Germany and described in these columns June 22, page 2006. He also reports the results of investigation in regard to the wrapping paper used by druggists. The wrappers of 806 packages, bought at 400 different drug stores in all parts of Germany, were collected; about half of the wrappers were on medicines dispensed on physicians' prescriptions. Of the total 806 packages, only 110 were wrapped in plain paper. The paper in all the others bore printed matter lauding a proprietary. Sanatogen headed the list with 193; then came Biozitin with 61; Califig with 45, and so on, to a total of seventy proprietaries from almost as many different manufacturers, including some notorious frauds.

Medizinische Klinik, Berlin

June 2, VIII, No. 22, pp. 893-932

90 *Gastro-Intestinal Hemorrhage. (Ueber seltenere Formen von gastrointestinaler Blutung.) G. Singer.
91 Internal Derangement of the Knee. (Meniscusverletzungen.) P. Bockenheimer.
92 *Oxalic-Acid Poisoning (Einige Beobachtungen bei Oxalsäurevergiftungen.) H. Wichern.
93 Tardy Rupture of Spleen After Contusion. (Zur Kasuistik posttraumatischer isolierter Spätrupturen der Milz.) S. Strauss.
94 Balneologic Treatment After Pleurisy. (Zur balneologischen Nachbehandlung der Pleuritiden.) Isserlin.
95 Hatschek's Zoologic System. (Das neue zoologische System von Berthold Hatschek und seine Vorgeschichte.) H. H. Wundsch.
96 Epistaxis. (Nasenbluten.) F. Kobrak.

90. **Gastro-Intestinal Hemorrhage.**—Singer discusses particularly the more unusual forms and emphasizes the causal importance of changes in the vessel walls as responsible for the hemorrhages, even without rupture. The characteristic syphilitic degeneration of the vessel walls permits the blood to ooze from the intact mucosa and thus explains many cases of parenchymatous hemorrhage in the stomach and bowels. It is probably also a factor in gastric ulcer. An ulcer in youth is liable to flare up anew under the influence of arteriosclerosis in later life. The arterial affection is the main point to be considered in treating many forms of hemorrhage in the gastro-intestinal tract, but the necessity for this is frequently ignored or overlooked, and the hemorrhage is erroneously ascribed to an imaginary ulceration when the condition of the vessels and circulatory apparatus in general should suggest the true interpretation of the case. Every month, he says, brings him cases in which men in apparently robust health are suddenly stricken with hemorrhage from the stomach or bowels, and evidences of arteriosclerosis can be found on examination. The relative euphoria, the rapid recuperation and the absence of gastro-intestinal symptoms further differentiate these cases from ulcer. These features are also common to the hematemesis with periodic vomiting which may be the first manifestation of tabes, years before any other symptoms develop. In regard to occult hemorrhage as a sign of cancer, Singer warns that even Boas has come to believe that neither positive nor negative findings should be accepted as conclusive, but only as another grain of evidence to be estimated in connection with the other clinical findings. Singer was misled in the diagnosis in one case by the patient's continuing to take a hemoglobin preparation while preparing for the test. He makes a point in treating gastric or duodenal ulcer to interpose two or three hemoglobin-free days occasionally to permit oversight of the state of the ulcerative process. Scirrhus cancer never induces hemorrhage and carcinoma not always, and gastric and duodenal ulceration may exist for years without manifest or occult hemorrhage. On the other hand, there may be bleeding with benign pyloric stenosis or chronic acid and anacid gastritis and even with chronic achylia, gastric catarrh or nervous vomiting. Generally with the latter, the vomit is first pure mucus, then it becomes blood-stained and then pure blood may be vomited. He reports some cases in which sun baths induced hematemesis and melena; the condition here might be compared with the duodenal ulceration liable to accompany superficial burns.

92. **Oxalic-Acid Poisoning.**—Wichern reports four cases, and mentions that they all occurred in the course of three weeks. The last three patients said they had taken the oxalic acid as they had read in the papers the account of the first patient's having taken it with suicidal intent. He adds that if newspapers would refrain from mentioning the exact poison used in cases of attempted suicide, many lives might be saved. All recovered, but two of the patients developed severe uremic convulsions, threatening for a time, and all of the patients showed severe functional disturbances on the part of the kidneys.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

May, XXXV, No. 5, pp. 535-670

97 *Intraperitoneal Injection of Oil. (Intraperitoneale Oelinjektionen.) v. Seuffert.
98 *Prolapse of the Placenta. J. P. Hartmann.
99 *Uterine Myoma in Relation to Sterility. (Uterusmyom, Sterilität und Fertilität.) A. Troell. To be concluded.
100 *Myoma in Uterine Cervix. R. Balaban

97. **Intraperitoneal Injection of Oil.**—In this communication from the gynecologic clinic at Munich in charge of Döderlein, three cases are reported in which oil was injected into the peritoneum in treatment of acute suppurative peritonitis, with recovery of two of the patients. The condition was extremely critical in all, and the course after the oil had been injected was surprisingly favorable in these two cases. Von Seuffert cites seventy-five similar cases from the literature (Hirschel, Borchard and Krecke), the mortality having been less than 25 per cent., when at least 35 or 40 per cent. would probably have succumbed without the oil. Holzbach and Delbet, on the other hand, witnessed no benefit from the oil in their experience. Von Seuffert reviews further the data in regard to prophylactic injection of oil, concluding from his personal experience in ten cases and those published by others that the oil is worthless in prophylaxis, whether injected during or as a preliminary to the operation.

98. **Prolapse of the Placenta.**—Hartmann has encountered prolapse of the placenta in two cases, the placenta separating prematurely, dropping down and being expelled before the fetus. The danger of fatal hemorrhage is great. In all the cases of the kind he could find on record the women had severe nephritis, which seems thus to be more than a mere coincidence. When the placenta has dropped down to the cervix it suggests placenta prævia, and requires about the same measures, only more haste is necessary if the fetus is still living. Only when there is reason to assume that but a short time has elapsed between the separation and the "prolapse" is there any hope of the fetus surviving the interference with the function of the placenta. Protracted labor with trickling of blood, in connection with pains and distention of the uterus, suggest premature separation of the placenta, especially when the woman has nephritis. The hemorrhage with each labor pain is more severe with placenta prævia.

99. **Myoma and Sterility.**—Troell has been examining the records in regard to myoma at the gynecologic clinic at Lund, Sweden, and states that in the twenty-two obstetric and 304 other cases of uterine myoma the proportion of nulliparæ was respectively 68.1 and 61.1 per cent. The more childbirths, the less seems to be the tendency to myoma production. He found myomas far more prevalent among the unmarried.

100. **Myoma in Uterine Cervix.**—Balaban gives an illustrated description of four cases and cites fifty-four articles on the subject from the literature. Treatment, he says, can only be operative, and the surgeon must be prepared for hemorrhage from the veins in the wall of the bladder and for complications on the part of the rectum and ureters, cervical myomas requiring greater technical skill for their removal than myomas of the body of the uterus.

Münchener medizinische Wochenschrift

May 28, LIX, No. 22, pp. 1201-1258

101 Successful Decapsulation of Kidney in Treatment of Acute Unilateral Septic Infectious Nephritis in Girl of 7. C. Ritter.
102 Vaccine Diagnosis and Therapy in Gonorrhea. Guggisberg.
103 Pituitary Extract in Obstetrics. (Verwertung der Hypophysenextrakte in der praktischen Geburtshilfe.) J. Hofbauer.
104 Internal Derangement of Knee from Trauma. (Zur Frage der Pathogenese und des Mechanismus der Meniskusverletzungen.) G. E. Konjetzny.
105 Technic for Nerve Blocking in the Axilla for Operations on the Arm. (Die Anästhesierung des Plexus brachialis in der Achselhöhle bei operativen Eingriffen in der oberen Extremität.) G. Hirschel.
106 A Hundred Hysterectomies for Myomas Without a Fatality. (Eine Serie von 100 abdominalen Totalexstirpationen bei Uterusmyom ohne Todesfall.) S. Flatau.
107 Pseudomyxoma of the Peritoneum. (Das sogenannte Pseudomyxoma peritonei.) E. Fraenkel. Commenced in No. 21.
108 Salvarsan in Syphilis. (Bisherige Ergebnisse unserer Salvarsanbehandlung.) Kannengiesser. Commenced in No. 21.

St. Petersburger medizinische Zeitschrift

May 28, XXXVII, No. 10, pp. 145-160

109 Rhinoscleroma Not Influenced by Salvarsan. W. Lieck.
110 Operative Treatment of Fractures Healing with Deformity. (Zur operativen Behandlung deform geheilter Frakturen und Pseudarthrosen.) W. Greiffenhagen.
111 The Methods in Vogue for Determination of the Uric Acid in the Blood. (Zur Bestimmung der Harnsäure im Blut.) A. Schawlow.
112 Volvulus of Large Intestine. (Zur Therapie des Volvulus des Dickdarms.) H. v. Hoffner.
113 Goiter in Northwestern Russia. (Ueber Kropf in Estland.) v. zur Mühlen.

Virchows Archiv, Berlin

May, CCVIII, No. 2, pp. 161-320

114 Changes in the Thyroid Gland in Exophthalmic Goiter. (Die histologische und chemische Veränderung der Schilddrüse bei Morbus Basedowii und ihre Beziehung zur Funktion der Drüse.) A. Kocher. Commenced in No. 1.

115 Changes in the Internal Ear with Cerebellopontine Angle Tumors, and Their Clinical Importance. (Ueber anatomische Veränderungen im Labyrinthe bei Kleinhirnbrückenwinkeltumoren und ihre klinische Bedeutung.) J. Zange.

Wiener klinische Wochenschrift, Vienna

May 30, XXV, No. 22, pp. 827-866

116 *Classification of Cases of Tuberculosis. (Eine neue Einteilung der Lungentuberkulose.) H. Schut.

117 Specific Diagnosis and Treatment of Tuberculosis. (Anwendung der Immunitätsforschung auf die Klinik der Tuberkulose —Die aktive spezifische Therapie der tuberkulösen Erkrankungen.) W. Neumann.

118 Exanthem After Salvarsan in Treatment of Syphilis; Eight Cases. M. Oppenheim.

119 Congenital Metatarsus Varus. O. v. Frisch.

120 Local Hemorrhage for Weeks After Resection of Nasal Mucosa. (Schwere Blutungen mehrere Wochen hindurch nach Entfernung von Hypertrophien der Nasenschleimhaut.) L. Rethi.

116. **Classification of Tuberculosis.**—Schut thinks that the time has come for a new classification of tuberculosis, and proposes the three main groups: obsolete, latent and manifest lesions. The manifest lesions he subdivides in turn into the proliferative and exudative, and each of these in turn into the non-progressive and progressive, and the progressive in turn into acute and chronic. This classification is based on whether the tuberculosis is progressing or not, and consequently it requires reexamination of the patient before the exact status of his disease can be determined. By proliferative he means the form distinguished by production of connective tissue, and thus the lesion is mainly interstitial. In the exudative form, exudation and destruction of cells predominate; there is much sputum and the temperature fluctuations are more pronounced. Both forms frequently coexist; the case should be classified by the predominating form. Then with the ordinary diagnostic measures, it is a simple matter to classify the patient properly and thus provide a basis for effectual treatment. He adds that the proliferative form has a better prognosis than the exudative. It is probable, he adds, that only the proliferative form is amenable to tuberculin treatment.

Zentralblatt für Chirurgie, Leipsic

June 1, XXXIX, No. 22, pp. 737-768

121 Peritonization of Stump of Mesentery After Resection of Intestines. (Peritonisierung des Mesenterialstumpfes mit freiem Netz bei ausgedehnter Darmresektion.) Iselin.

122 Management of Stump of Duodenum After Resection of Stomach. (Zur Frage des Verschlusses des Duodenalstumpfes nach umfangreichen Resektionen des Magens.) W. Lewit.

Zentralblatt für Gynäkologie, Leipsic

June 1, XXXVI, No. 22, pp. 697-728

123 Necessity for Classifying Separately Puerperal Fever After Abortion. (Notwendigkeit der Trennung der Puerperalfieber-Erkrankungen und Todesfälle post abortum und derjenigen post partum maturum, praematur. und immatur. in der offiziellen Statistik.) W. Thorn.

124 Campaign Against Criminal Abortion. (Der Kampf gegen die kriminelle Fruchtabtreibung.) A. Brun.

125 Rarity of Premonitory Rise of Temperature with Thrombosis. (Ist nun die Existenz eines prämonitorischen Temperatursymptoms bei Thrombose und Embolie erwiesen?) H. Kuster.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 21, XXXII, No. 61, pp. 641-648

126 *Wassermann Reaction in Rachitis. (Rachitismo e reazione di Wassermann.) D. Caffarena.

May 23, No. 62, pp. 649-656

127 *Salvarsan in Lesions Secondary to Syphilis. (Alcuni casi rari curati col salvarsan.) E. Jona.

May 26, No. 63, pp. 657-672

128 *Cholera an Enteritis Due to Adrenal Insufficiency. (Colera ed iposurrenalismo.) P. Piovesana.

May 28, No. 64, pp. 673-680

129 "Uterus Cough" Cured by Correction of Retroversion. (Caso di tosse uterina curata chirurgicamente.) P. Tedeschi.

May 30, No. 65, pp. 681-688

130 Local Anesthesia of Larynx by Nerve Blocking with Alcohol. (Contributo alla anestesia locale nella tisi laringea per mezzo delle iniezioni di alcool.) M. Pavesi and E. Curti.

June 2, No. 66, pp. 689-704

131 Etiology of Epidemic Poliomyelitis. (Eziologia della poliomielite acuta.) G. Galeotti.

126. **Rachitis and Wassermann Reaction.**—Caffarena obtained a positive reaction to the Wassermann test in 30 per cent. of twenty children with rachitis and in some other member of the family in 40 per cent. He also found that the symptoms of the rachitis improved under specific treatment as for syphilis. His findings confirm Marfan's assumption of a causal connection between syphilis and rachitis.

127. **Salvarsan in Diseases Other than Syphilis.**—Jona found the salvarsan absolutely inert in some cases of diabetes insipidus and leukemia, but the jaundice and anemia subsided in some cases of syphilitic liver affections although the liver lesion itself did not seem to be modified by the treatment. The fundamental syphilitic affection may be beyond benefit from the specific treatment, yet secondary derangement may be cured by it.

128. **Cholera and Adrenal Insufficiency.**—Piovesana emphasizes certain features in common between Addison's disease, the syndrome observed after removal of the adrenals, and cholera. The resemblance in certain points is so marked that it suggests that cholera may be merely an acute specific enteritis with toxic symptoms on the part of the nervous system, especially of the innervation of the cardiovascular apparatus, due to deficient adrenal functioning. On this assumption the logical treatment of cholera would be to supply the lacking internal secretion of the adrenals. He reports nine cases in which he applied treatment on this basis, after considerable confirmatory animal experimentation. He thinks the results justify further trials of epinephrin in treatment of cholera, not shrinking from large doses. He noticed that the condition of the patients always grew rapidly worse when they were moved, and he urges that they should be treated at home when possible. The transportation, even with the greatest care, seemed to jar the viscera and aggravate conditions.

Policlinico, Rome

May 19, XIX, No. 21, pp. 745-780

132 No Difference in Virulence of Germs from Cholera Patients and from Healthy Carriers. (Ricerche sul comportamento dei vibrioni di Koch isolati da malati e da portatori.) T. Pontano.

133 Treatment of Empyema in the Thorax. L. Vaccari.

May 26, No. 22, pp. 781-816

134 Neuroses of the Heart. (Le neurosi del cuore.) Beloserasky.

May, Medical Section No. 5, pp. 189-238

135 *Tuberculous Meningomyelitis. G. Antonelli.

136 Metabolism in Pellagra. (Contributo allo studio del ricambio materiale nella pellagra.) L. Preti and L. Pollini.

135. **Tuberculous Meningomyelitis.**—Antonelli reviews the history of this disease and reports a case with the necropsy findings. His patient was a man of 47 with a history of old venereal disease but no secondary manifestations. In the midst of apparent health symptoms of pleurisy developed, with pains in the chest, especially in the region of the sternum. They were probably the clinical manifestations of the incipient disease in the spinal roots. The pleurisy persisted and the lung showed signs of involvement. Later pain developed in the lumbar region and joints of the legs. The joint disturbances suggested an infectious pseudorheumatism; this method of onset of meningomyelitis was observed in several of the cases on record. In the third period paralysis developed, readily explained by the necropsy findings, indicating ascending tuberculous leptomeningomyelitis. The whole trouble seemed to have developed secondarily to a recent tuberculous process in the pleura and lungs. In the cases in the literature the primary tuberculous process had always been of long standing.

Riforma Medica, Naples

May 4, XXVIII, No. 18, pp. 477-504

137 Pulsation in Pleural Effusions and Its Cause. (Delle raccolte pleuriche pulsanti e del determinismo della pulsatilita di esse.) S. Livierato.

May 11, No. 19, pp. 505-532

138 Respiration During Experimental Pulmonary Embolism. (Sulle modificazioni della meccanica respiratoria nell' embolia polmonare.) F. Pentimalli.

May 18, No. 20, pp. 533-560

139 *Traumatic Neuroses. (Delle neurosi da trauma.) A. Murri. Commenced in No. 18.

139. Traumatic Neuroses.—Murri thinks that physicians are far too apt to overlook the previous condition in examining the victim of an accident. Because certain morbid conditions are found they are apt to be ascribed to the trauma, when in reality the trauma was merely the gentle breeze that brought down the ripe fruit just on the point of falling. The patient has every interest in concealing from the physician any preceding morbid condition. Murri calls attention further to the fact that traumatic neuroses were not observed after the great Messina earthquake a few years ago; the earthquake left the spectators in a neurotic condition but its duration was brief and it passed over like an acute disease, subsiding without leaving a trace. It is possible that the absence of any source to which to apply for an indemnity may have aided in the prompt subsidence of the neuroses. He gives a number of instructive examples of traumatic neuroses, with or without feigned or wilfully exaggerated symptoms. In one case a man of 39 developed epilepsy after a fall between two cars, but Murri was unable to find any records of epilepsy brought on at this late age by a railroad accident, and he thinks it much more probable that the epilepsy had long existed in a latent form and that it had been the cause of the fall. In one case a preexisting tendency to paralysis—ascribed by the patient entirely to the trauma—was discovered by means of his old shoes. The top of the toe of one shoe in each pair was worn off where the foot had dragged a little and hit the stair. Simulators generally make the pathologic movement exaggerated at first and it gradually grows weaker, while with organic disease the movement starts out more or less normal and becomes more pathologic with fatigue.

Brazil Medico, Rio de Janeiro

May 8, XXVI, No. 18, pp. 175-186

140 Cutaneous Sporotrichosis. (Esporotrichose.) F. Terra.

Revista de Medicina y Cirugia, Havana

May 25, XVI, No. 10, pp. 275-300

141 Improved Technic for Differentiation of Typhoid Bacilli. (Modificacion de la formula del medio de Endo.) L. Plasencia.

142 Treatment of Acute Purulent Otitis Media. V. Gomez.

June 10, No. 11, pp. 301-326

143 Sanitation of Burial. (Saneamiento de la muerte.) L. M. Cowley.

144 Sanitary Conveniences in Buildings During Construction. (Sistema que urge reformar.) A. G. Dominguez.

Semana Medica, Buenos Aires

April 25, XIX, No. 17, pp. 781-824

145 Plan and Method in Diagnosis. (El plan y el metodo en el arte del diagnostico.) A. Alfaro.

146 *Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. D. Paternoster.

147 Morphology in Biology. (La morfologia dinamica.) F. Housay.

148 Does Filtering the Water Avert Danger of Typhoid? (Debemos confiar en los filtros para precavernos de la tifoidea?) V. Delfino.

May 2, No. 18, pp. 825-868

149 *Fracture of the Pelvis. L. Bard.

150 Artificial Mineral Waters. (Las aguas minerales artificiales y el agua de Seltz.) V. Delfino.

151 Deformities in Connection with Mental Disease. (Anomalies morfologica en los padecimientos mentales.) L. J. Ortiz.

146. Induced Pneumothorax in Treatment of Pulmonary Tuberculosis.—Paternoster describes his impressions on visiting Forlanini's clinic at Pavia, Italy, where he was able to study the technic and results at first hand of the therapeutic pneumothorax as Forlanini has perfected his method. He witnessed more than three hundred applications of the method, and states that none of the patients experienced any disturbance from it. They are kept under supervision but not obliged to stay in bed even from the first. The tubercle bacilli disappeared from the sputum in from two to six months, according to the severity of the initial lesions. He cites the details of a few clinical cases to show the benefit derived even during his stay and states that he saw also a number of former patients who are now in the best of health from twenty to twenty-four months and more since the termination of the treatment; he examined their sputum repeatedly but could find no trace of tubercle bacilli.

149. Fracture of the Pelvis.—Bard comments on the wide divergence of the outcome in cases of fracture of the pelvis, some patients dying of shock from the serious injury, others surviving with severe complications while in others the fracture behaves and heals like the fracture of any bone without further trouble. In four cases reported the fracture healed in a plaster cast without complications in two cases, but complications and injury of viscera soon proved fatal in the others.

Hospitalstidende, Copenhagen

May 15, LV, No. 20, pp. 561-584

152 Roentgenoscopy of Bursitis in the Shoulder. (Röntgenundersøgelse som diagnostik Hjælpemiddel ved Bursitis subacromio-deltoidea.) H. J. Panner.

153 Modification of Gram Stain Especially for Differentiation of Gonococci. (Om en Modifikation af Grams Farvning særlig med Hensyn til Gonokokdiagnosen.) V. Jensen.

May 30, No. 22, pp. 613-636

154 Formaldehyd Sterilization. (Formaldehyddesinfektion.) L. E. Walbum. Commenced in No. 21.

155 Dosage in Roentgenotherapy. (Iagttagelser over Maaling af Rontgenmængder.) H. Bang.

Ugeskrift for Læger, Copenhagen

May 23, LXXIV, No. 21, pp. 807-828

156 Roentgenoscopic Diagnosis of Adhesions in Colon Region. (Betydningen af Røntgenundersøgelse ved Diagnose af Colonadhærencer.) A. Pers.

May 30, No. 22, pp. 829-858

157 *Direct Inhalation of Mercury in Treatment of Syphilis. (Arteriel Kvægsølvterapi gennem Inhalation—En ny Behandlingsmaade af Syfilis.) C. Engelbreth.

157. Improved Technic for Mercurial Treatment: Direct Inhalation.—Engelbreth explains the benefits of inunctions as principally due to the inhaling of the fumes from the mercurial inunctions; the inhaled mercury taken into the alveoles of the lungs passes directly into the arteries. He thinks that this same effect can be obtained much magnified by evaporating the mercury by heat and inhaling the fumes thus generated, and has devised an apparatus for the purpose of which he gives an illustrated description. The air is heated by an alcohol lamp and passing over amorphous mercury is conveyed to the nose by a tube and small cap fitting over the nose alone and held in place with a head-band. The amount of mercury to be inhaled can be exactly measured; the patient can read and make himself comfortable while taking his hour courses of inhalation. None of the fumes get into the mouth and consequently there is no danger of stomatitis—Engelbreth has never witnessed any tendency to intoxication in any of his cases. It seems, he says, as if by this method the mercury displays only a therapeutic action while the toxic elements of the drug are eliminated, or at least do not reach the patient. He has been particularly impressed with the way the patients thrive under it; they rapidly acquire the ruddy aspect of health and gain in weight while the influence on the manifestations of the syphilis seemed to be more radical than with any other treatment to date. The fumes pass directly into the arteries by this method, without any intermediate stages. He regards this as of paramount importance for syphilis seems to attack the vascular system predominantly; even the lesions in the central nervous system originate in or are closely connected with the vessels. Syphilis seems to be as closely connected with the arteries as gonorrhea with the urethra. A method of treatment, therefore, which goes directly and exclusively into the arterial system, and is peculiarly convenient and harmless, seems to offer a number of superior advantages, he declares, over any other method known to date.

Upsala Läkareförenings Förhandlingar, Upsala

XVII, No. 6, pp. 393-476. Last indexed June 15, p. 1890

158 Study of Cod-Liver Oil from Pharmaceutic-Chemical Standpoint. (Bidrag till kännedomen om Oleum Phocae medicinale ur farmacevtiskt-kemisk synpunkt.) A. Wingård. To be continued.

159 Movements of the Eyes in Fixation. (Fortsatta undersökningar om ögats rörelser under fixering.) H. Ohrvall.

160 *Proposed Physiologic-Anatomic Nomenclature for Surgical Reports. (Om den för sjukhusens årsrapporter nu gällande operationsnomenklaturen.) J. A. Hedlund.

160. Nomenclature for Classifying Operations in Annual Reports.—Hedlund would arrange the reports of operations in seventeen classes according to whether the operation was on a bone, joint, muscle or tendon, skin and subcutaneous tissue, etc., and gives a table to show the superior advantages for classification and oversight of the method proposed.